STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

By

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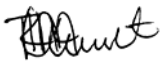
DECLARATION

I declare that **STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA** is my own work, that I indicated and acknowledged all the sources I used or quoted by means of complete references and that this work has not been submitted before for any other degree at any other institution.



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ABSTRACT

Tuberculosis (TB) is one of the top-ranking causes of death in many countries, including Namibia. The purpose of this research study was to determine the knowledge and the attitudes of religious leaders and congregants regarding TB and to describe practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia. The researcher developed strategies for enhancing the prevention of TB by religious leaders in Khomas Region, Namibia. The Health Belief Model and the Socio-ecological Model were adopted for the study.

A mixed-method convergent design was used in this study. Phase one of the study involved the use of a quantitative descriptive design and phase two comprised a sequential mixed-method study using the Delphi technique. Explorative, descriptive and contextual designs were applied in phase two. Data were collected using semi-structured questionnaires in both phase one and phase two. Phase one included 299 participants and phase two included 100 experts in TB and religion. A quantitative data analysis was done using Moon Stats 2018, version 2.0. A qualitative data analysis was done following the steps of content analysis.

This study found that the participants were very knowledgeable about TB in that 241 (80.87%) participants indicated that bacteria are the cause of TB and 292 (97.99%) indicated that TB bacteria are spread through the air from one person to another. The participants had a good attitude towards TB in that 227 (76.65%) participants agreed that anyone can be infected with TB and 140 (47.78%) expressed compassion for people who have TB. Participants of the study had good practices for TB prevention, like seeking medical attention if they suspect they have TB. A total of 28 strategies for the primary, secondary and tertiary prevention of TB were developed.

The recommendation made in this study is that religious leaders should be at the forefront of TB prevention activities due to their sphere of influence in society. All health sector stakeholders should support efforts by religious leaders to combat TB through sponsorships.

Key terms: Attitudes; Congregants; Delphi technique; Knowledge; Participation; Practices; Prevention; Religious leader; Strategies; and Tuberculosis.

TSHOBOKANYO

Bolwetsi jwa lehuba (TB) ke nngwe ya dibaki tsa loso tse di kwa setlhoeng mo dinageng tse dintsi, go akaretsa Namibia. Maikaelelo a thutopatlisiso eno e ne e le go sekaseka kitso le maitshwaro a baeteledipele ba sedumedi le baphuthegi mabapi le TB le go tlhalosa ditiragalo tsa thibelo ya TB magareng ga baeteledipele ba sedumedi le baphuthegi mo Kgaolong ya Khomas, Namibia. Mmatlisisi o dirile ditogamaano tsa go tokafatsa thibelo ya TB ka baeteledipele ba sedumedi mo Kgaolong ya Khomas, Namibia. Go amogetswe sekao sa Tumelo ya Boitekanelo le Sekao sa Ikholoji ya Loago mo thutopatlisisong.

Go dirisitswe thadiso ya molebo o o kopantsweng mo thutopatlisisong eno. Kgato ya ntlha ya thutopatlisiso e akareditse tiriso ya molebo o o tlhalosang wa dipalopalo, mme kgato ya bobedi e nnile le thutopatlisiso ya molebo o o kopantsweng wa tatelano o o dirisang thekeniki ya Delphi. Go dirisitswe melebo ya tshekatsheko, tlhaloso le bokao mo kgatong ya bobedi. *Data* e ne ya kgobokanngwa go dirisiwa makwalopotsolotso a a batlileng a rulagantswe mo kgatong ya ntlha le kgato ya bobedi. Kgato ya ntlha e akareditse banni-le-seabe ba le 299, mme kgato ya bobedi e akareditse baitsenape ba le 100 ba TB le bodumedi. Tokololo ya *data* ya dipalopalo e ne ya dirwa go diriswa *Moon Stats* 2018, mofuta wa 2.0. Tokololo ya *data* e e lebelelang mabaka e ne ya dirwa go latelwa dikgato tsa tokololo ya diteng.

Thutopatlisiso eno e fitlhetse gore banni-le-seabe ba ne ba na le kitso thata ka ga TB mo e leng gore banni-le-seabe ba ba 241 (80.87%) ba kaile gore ditwatsi ke tsona di tlholang TB, mme ba le 292 (97.99%) ba kaile gore ditwatsi tsa TB di phatlaladiwa mo moweng go tswa go motho yo mongwe go ya go yo mongwe. Banni-le-seabe ba na le megopolo e e siameng ka ga TB mo e leng gore banni-le-seabe ba ba 227 (76.65%) ba dumetse gore mongwe le mongwe a ka nna a tshwaetswa ke TB, mme ba le 140 (47.78%) ba ne ba bontsha boutlwelobotlhoko mo bathong ba ba nang le TB. Banni-le-seabe ba thutopatlisiso ba na le ditiragatso tse di siameng tsa thibelo ya TB, go tshwana le go batla thuso ya kalafi fa e le gore ba belaela gore ba na le TB. Go dirilwe palogotlhe ya ditogamaano di le 28 tsa thibelo ya ntlha, ya bobedi le ya boraro ya TB.

Katlenegiso e e dirilweng mo thutopatlisisong eno ke gore baeteledipele ba sedumedi ba tshwanetse go nna kwa pele mo ditiragatsong tsa thibelo ya TB ka ntlha ya seemo sa bona

sa tshusumetso mo setšhabeng. Baamegi botlhe ba lephata la boitekanelo ba tshwanetse go tshegetsa maiteko a baeteledipele ba sedumedi go lwantsha TB ka diketleetso.

Mareo a botlhokwa: Megopolo; Baphuthegi; Thekeniki ya Delphi; Kitso; Seabe; Ditiragatso; Thibelo; Moeteledipele wa Sedumedi; Ditogamaano; le Bolwetsi jwa lehuba.

OPSOMMING

Tuberkulose (TB) is een van die grootste doodsoorsake in Namibië en talle ander lande. Die doel van hierdie studie was om godsdiensleiers en gemeentelede in die Khomasstreek in Namibië se kennis van TB, hulle ingesteldheid jeens die siekte, en hulle voorkomingsmaatreëls te ondersoek. Die navorser het strategieë opgestel om te verhoed dat godsdiensleiers in hierdie streek TB opdoen. Die Gesondheidopvattings- en die Sosiaal-ekologiese model is met die oog op hierdie studie aangepas.

'n Konvergente ontwerp met gemengde metodes is in hierdie studie gebruik. In fase 1 is 'n kwantitatiewe, deskriptiewe ontwerp gevolg en in fase 2 is opeenvolgende gemengde metodes volgens die Delphitegniek toegepas. 'n Verkennende, deskriptiewe en kontekstuele ontwerp is in fase gevolg. Data is in fase 1 en 2 aan die hand van halfgestruktureerde vraelyste ingesamel. In fase 1 het 299 respondente en in fase 2 het 100 TB- en godsdiensdeskundiges deelgeneem. 'n Kwantitatiewe ontleding van die data is met Moon Stats 2018, weergawe 2.0 gedoen. Vervolgens is die data kwalitatief volgens die stappe van 'n inhoudsanalise ontleed.

In hierdie studie is bevind dat die deelnemers heel kundig was oor TB. Altesame 241 (80,87%) deelnemers het te kenne gegee dat bakterieë die oorsaak van TB is, en 292 (97,99%) het laat blyk dat TB-bakterieë luglangs van een persoon na 'n ander versprei. Die deelnemers se ingesteldheid jeens TB was reg, want 227 (76,65%) deelnemers was dit eens dat enige iemand die siekte kan opdoen, en 140 (47,78%) het medelye gehad met TB-lyers. Daarby het hulle goeie voorkomingsmaatreëls gevolg soos om 'n dokter te spreek toe hulle vermoed het dat hulle TB opgedoen het. Altesame 28 maatreëls is vir die primêre, sekondêre en tersiêre voorkoming van hierdie siekte getref.

Daar word aanbeveel dat godsdiensleiers vanweë die aansien wat hulle in die samelewing geniet, die leiding in voorkomingsveldtogte moet neem. Alle belanghebbendes in die gesondheidsektor moet godsdiensleiers se pogings om TB te bestry, met borgskappe steun.

Sleutelbegrippe: Ingesteldheid; gemeentelede; Delphitegniek; kennis; deelname; praktyke; voorkoming; godsdiensleier; strategieë; tuberkulose.

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DEDICATION

This study is dedicated to my late parents as follows: Mr Robert Kakhondo (Grandfather), Mrs Moitshepi Goboje (Great-grandmother), Mrs Moitshepi Robert (Aunt) and Bashimane Chargeman Robert (Cousin). I am sure that they could be jubilant of my academic excellence if they could still be alive. May they continue to rest in peace. Lastly but not least, this study is dedicated to Mrs Josanta Robert, my grandmother and role model.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACSM	Advocacy, Communication and Social Mobilisation
AIDS	Acquired Immune Deficiency Syndrome
CBO	Community Based Organisations
CBTC	Community Based Tuberculosis Care
CDC	Centre for Disease Control
CHCW	Community Health Care Workers
CHPO	Chief Health Programme Officer
CMO	Chief Medical Officer
CONEHA	Advanced Community Health Care Services Namibia
CRS	Catholic Relief Services
DOT	Direct Observed Treatment
FBO	Faith Based Organisations
HBM	Health Belief Model
HIV	Human Immunodeficiency Virus
KAP	Knowledge Attitude & Practices
MLTP	Medium-term Plan for TB
MoHSS	Ministry of Health and Social Services
NLTP	National Tuberculosis and Leprosy Programme
NRCS	Namibia Red Cross Society
PHC	Primary Health Care
SEM	Social Ecological Model
SHPO	Senior Health Programme Officer
SMO	Senior Medical Officer
SDG	Sustainable Development Goal
TB	Tuberculosis
TBFP	Tuberculosis Field Reporter
TBL-NSC	Tuberculosis and Leprosy National Steering Committee
UN	United Nations
WHO	World Health Organisation

CHAPTER ONE

ORIENTATION TO THE STUDY

1.1. INTRODUCTION

Tuberculosis (TB) has been reported to remain among the top killer diseases in the world according to the document from the Ministry of Health and Social Services (MoHSS 2017:1) and (Fogel 2015:526). TB is an infectious disease which is caused by the bacillus *Mycobacterium tuberculosis*. There are two types of TB, which are pulmonary TB (affects the lungs) and extra pulmonary TB (affects other sites of the body). Pulmonary TB spreads through the expulsion of the bacteria into the air by an infected person, for example through coughing (WHO 2017: 1). Desalu, Adeoti, Fadeyi, Salami, Fawibe and Oyedepo (2013:1) asserts that after a person is infected with TB and exhales *Mycobacterium tuberculosis* in the air, people nearby may inhale the *Mycobacterium tuberculosis* and become infected with the disease.

However, Parmer, Allen and Walton (2017:1) added that the *Mycobacterium tuberculosis* can remain viable as airborne droplets suspended in the air for weeks as part of the household dust. This makes TB a very dangerous disease in the sense that if a person with TB exposes the household environment to *Mycobacterium tuberculosis*, there must be good ventilation to get rid of droplet infection otherwise multiple people who enter the environment are susceptible to TB infection. A good number of the population in Namibia lives in squatter settlements with houses that do not have windows but have only one door. Therefore, this could be a risk factor to the increasing TB incidences in Namibia.

Several factors contribute to TB infections. According to Kirenga, Ssengooba, Muwonge, Nakiyingi, Kyaligonza, Kasozi, Mugabe, Boeree, Joloba and Okwera (2015:3), factors which dispose people to TB contraction include, HIV/AIDS, poverty, unemployment, poor nutrition and smoking. Parmer (2017:2) explained that the immune system is weakened by HIV infection, diabetes mellitus, malignancy, chronic kidney disease, old age, and immunosuppressive agents which then gives latent TB the opportunity to translate to active TB. There is a need to address these factors through inter-sectoral collaboration in Namibia.

Therefore, the need to engage all health partners in TB prevention and care which religious leaders and congregants cannot be excluded. The vital role of religious leaders in TB prevention and care motivated the need for the researcher to conduct this study.

This Chapter sets the pace for the study by presenting the background to the problem under study. This discusses the problem from a wide view and narrows it to the study setting. Later in this Chapter, the aim of the study, and significance will be described, followed by the study objectives and questions. The theoretical foundation of this study and the study methods are briefly discussed here. This chapter concludes by defining the key terms used in this study.

1.2. BACKGROUND INFORMATION TO THE RESEARCH PROBLEM

The World Health Organisation (WHO) (2017:2) indicated that in 2016, the South-East Asia Region formed 45% of the total global TB incidence, followed by the African Region (25%) and the Western Pacific Region (17%). Smaller proportions of TB incidence cases occurred in the Eastern Mediterranean Region (7%), the European Region (3%) and the Region of the Americas (3%) (WHO 2017:2). Despite the TB incidence rates, there has been a decline in TB incidence rates with the fastest rate reported in the European Region (4.6% from 2015 to 2016). A good decline in TB incidence statistics was also noted since 2010 exceeding 4% per year in several high TB burden countries, including Ethiopia, Kenya, Lesotho, Namibia, the Russian Federation, the United Republic of Tanzania, Zambia, and Zimbabwe (WHO 2017:2).

In 2017, there were an estimated 10.0 million new cases of TB which can be translated to 133 cases per 100 000 population globally. TB has been labelled as a disease that does not discriminate between the poor and rich, even though the most affected population is the socially disadvantaged. Therefore, it affects all countries from the low to high income and all age groups from infants to adults. However, in 2017, 90% of the global TB cases were adults. On this number, African countries except South Africa were on the lead with 72% of the infections while two thirds were in eight other countries: India (27%), China (9%), Indonesia (8%), the Philippines (6%), Pakistan (5%), Nigeria (4%), Bangladesh (4%) and South Africa (3%). The WHO European Region and the WHO Region of the Americas divided the last 6% of the TB infections with 3% each region respectively (WHO 2018:27).

Namibia experienced an increase in the number of TB cases reported since 2015. In 2018, Namibia reported a TB incidence rate of 423/100 000 population. These statistics maintain the crown of Namibia as one of the thirty most affected countries by TB globally with Khomas Region being the most affected among the 14 regions of this state which bred interest in conducting this study in the region (MoHSS 2019:1). Table 1.1 below shows the number of TB cases reported per region in 2018.

TABLE 1.1 NUMBER OF TB CASES PER REGION IN NAMIBIA

Region	**Number of TB cases**
Erongo Region	1075
Hardap Region	667
Kharas Region	579
Kavango Region	854
Khomas Region	1602
Kunene Region	321
Ohangwena Region	1254
Omaheke Region	472
Omusati Region	717
Oshana Region	527
Oshikoto Region	747
Otjozondjupa Region	601
Zambezi Region	528

(MoHSS, 2016:43)

There is still a strong relationship between TB and HIV. HIV weakens the immune system of individuals making them prone to TB. Furthermore, TB and HIV has been referred as sister diseases due to this strong relationship. All the patients who test HIV positive are most likely to be infected with TB in their lifetime (MoHSS 2019: 95). A retrospective forecast on TB indicates that in 2017, TB claimed about 1.3 million lives among people who were HIV-negative while 300 000 deaths were among people who were HIV positive. In Namibia, TB claimed 60 people per 100 000 population in 2017 (MoHSS 2019: 1; WHO 2018: 27). The alarming death rate caused by TB motivated the researcher to develop strategies which can help to reduce TB incidences by involvement of the religious leaders.

TB is considered a global emergency, therefore in 2014 and 2015, all Member States of WHO and the United Nations (UN) committed to ending the TB epidemic. Several strategies were developed to curb TB incidences. Those are: the WHO's End TB Strategy and the UN Sustainable Development Goals (SDGs) in September 2015. The End TB Strategy is aimed at ending the global TB epidemic by 2030 and 2035 with set milestones in 2020 and 2025. On the other hand, the SDGs include a target to end the TB epidemic by 2030 (WHO 2018:7). These strategies and few others are adopted in Namibia. This information is described in detail in Chapter two of this study.

The alarming rates of TB infection has called for partnerships and collaborations in all sectors which include religion. There seems to be no recent literature on TB and religion in Namibia according to the literature search done by the researcher. However, according to Bohnett and Zambra (2010: 31) faith and health are closely linked throughout the world, including countries where TB is present. Care for the sick and infirm is at the centre of many faith traditions, and religious institutions fund or operate extensive medical facilities, often in places where government health care offerings are inadequate or totally absent. Religious health institutions mostly tied to communities therefore may be able to facilitate the intensive, community-level work required in order for current TB treatments to be effective. Religious leaders often have special influence in their communities and can play roles as educators about important social and health issues, including TB (Bohnett & Zambra 2010: 31).

There have been successful TB prevention interventions pioneered by religious leaders in Africa and beyond. The Catholic Relief Services (CRS) (2015: 1) in Philippines has been working with religious leaders, who are predominantly Muslim, in heightening awareness about the TB. Armed by CRS with information about TB, over 135 Muslim spiritual leaders' campaign for TB prevention in their mosques before beginning formal worship. These religious leaders are well-respected by the communities and take an active role in educating them about the spread of TB, as well as about its treatment and prevention to diminish TB-related stigma. Community members treated for TB have been encouraged to join support groups and awareness programs led by religious leaders (Bohnett & Zambra 2010: 31). A study by Pirkani, Qadeer, Ahmad, Razia, Khurshid, Khalil, Shuib and Naeem (2009: 114) found that improved awareness about TB by religious leaders facilitated conveying of the

message about TB to the masses. Pirkani et al (2009: 114) also found that involving the religious leaders in raising awareness of the community proved to have a beneficial impact on the health seeking behaviour of TB suspects.

A study conducted by Manurung, Ndun, Ruliati, Baun, Lele and Wahyuni (2019: 426) in Kupang City in the knowledge and practices of informal religious leaders (IRL) in referring TB suspects to public health centres found that some leaders had knowledge deficit on TB which consequently affected referral of TB suspects to seek medical help. Manung et al (2019: 426) indicated that after training of the IRL, their knowledge of TB increased and improved their practices on referral of TB suspects to public health care facilities. This study results are consistent with the results of a study conducted in the same city in 2019 by Manurung, Ruliati, Baun, Lele and Wahyuni (2018: 119) which explored the knowledge of TB among God's servants. Manurung et al (2018: 119) found that God's servants had very poor knowledge of TB attributed by lack of access to information. Manurung et al (2018: 425) and Manurung et al (2019: 118) are in consensus that knowledge of TB and positive attitude towards TB influences practices towards TB prevention. Contrary to these two studies, Paul, Aker, Aftab, Khan, Barua, Islam, Islam, Husain and Sarker (2015: 4) found that in their study in Indonesia, key community members (community leaders) had good knowledge of TB. Therefore, the commanding respect awarded to religious leaders is an advantage to influence TB prevention and care. To utilise religious leaders, influence to fight against TB, this study determined and described the knowledge, attitudes, and practices gaps regarding TB among religious leaders in Khomas Region.

In Namibia, MoHSS has an initiative that aims to improve health seeking behaviour through engagement and empowerment of community leaders, church leaders, schools, and traditional healers in early TB case detection in their communities (MoHSS 2013:5). There are some organisations in Khomas region responsible for TB prevention, treatment, and care such as Namibia Red Cross and the Penduka TB programme. These two programmes are funded by Global Fund. There are currently no religious or faith-based programmes in Khomas region and Namibia at large participating in TB prevention, treatment, and care according to the available literature (MoHSS 2016: 18).

Furthermore, there are no strategies developed to guide involvement of these leaders in prevention of TB. The third medium term plan of TB and leprosy reflects the need to develop sustainable strategies for TB control by community and religious leaders (MoHSS 2019:44). To develop sustainable strategies for the community and religious leaders on TB prevention, their knowledge, and attitudes towards TB as well as their practices towards TB prevention is key. Therefore, this study focused on TB Knowledge Attitude and Practices of TB prevention (KAP) of religious leaders and congregants in Khomas Region, Namibia and thereafter, the strategies to enhance participation in prevention of TB by religious leaders were developed.

1.3. RESEARCH PROBLEM

A research problem refers to an issue or a problem that prompts a scientific inquiry (Creswell 2014:108). It may spring from several sources or factors such as the researcher's professional work experience or an extensive debate from literature. Creswell (2014:108) continues to assert that research problems can be deduced based on the gaps of the previous literature related to the study and paving the way to address the hanging problem within the scope or context of what is being researched that needs to be addressed. TB has a devastating impact on the health and wellbeing of people around the world, as well as on economic growth and stability in the countries. Namibia is no exception to this with a marginal increase in the number of notified TB cases from 9 882 cases in 2014 to 9 944 in 2015 (MoHSS 2013:1; MoHSS 2016:1). This elevated Namibia to be one of the countries that are worst affected with TB. While in 2018, Namibia reported 423 TB incidences per 100 000 populations nationally (MoHSS 2019:1). As reflected in the background above, Khomas Region is in the forefront in terms of TB disease burden in Namibia.

The WHO has adopted the End TB Strategy to combat TB. This strategy requires a very high-level of political leadership, churches, and faith communities for it to be successful. In Namibia, the National Advocacy, Communication and Social Mobilisation Strategy for TB (2013-2015), training on TB and linkages were to be established between leaders and health facilities for referral of symptomatic TB community members (MoHSS 2013:5). The researcher is aware that there has been training for religious leaders on TB. However, there seems to be no evidence through published literature on the evaluation of the effectiveness

of this training. Furthermore, The Third Mid-Term Strategic Plan for Tuberculosis and Leprosy describes the need for development of strategies to enhance community and religious leaders' participation in prevention of TB.

This study described the knowledge, attitudes, and practices on TB prevention among religious leaders and congregants in Khomas Region, Namibia. Thereafter, strategies to prevent TB by religious leaders were explored, developed, and validated.

1.4. THE AIM OF THE STUDY

1.4.1. Research purpose

The research purpose is a statement that points out why the researcher is conducting the study and what they intend to achieve at the end of the study. Therefore, the research purpose statement sets forth the intention of the research not the problem that requires scientific investigation (Creswell 2014: 123). The purpose of this research study was to develop strategies to enhance participation in the prevention of TB by religious leaders in Khomas Region, Namibia.

1.4.2. Research Objectives

The objectives of this study were to:

1. Determine the knowledge and attitudes of religious leaders and congregants regarding TB in Khomas Region, Namibia.
2. Describe practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia.
3. Develop strategies to enhance participation in the prevention of TB by religious leaders which ultimately influence prevention of TB in the societies and the communities of Khomas Region, Namibia.

1.4.3. Research questions

1. What knowledge and attitudes do religious leaders and congregants in Khomas Region; Namibia have regarding TB?

2. What practices do religious leaders and congregants in Khomas Region; Namibia have regarding TB prevention?
3. What are the strategies that can enhance participation in the prevention of TB by religious leaders, which can ultimately influence the prevention of TB in the societies and the communities of Khomas Region, Namibia?

1.5. SIGNIFICANCE OF THE STUDY

This study may contribute to the baseline information on the knowledge and attitudes of TB and practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia. Furthermore, the results of this study may strengthen the collaboration between religious leaders' organisations and MoHSS Namibia on TB prevention if implemented. The TB prevention strategies, which were developed by this study could contribute to a fight against TB and reduction in TB incidences as well as mortality rates. This study results may be published in peer reviewed journals as a contribution to the body of knowledge. This study proposes strategies to enhance participation in the prevention of TB which could influence policy making on TB prevention and control. There is a possibility of this study to influence nursing practice and nursing education by integrating religion in nursing milieus in prevention of TB and strengthening the role of religion in prevention of TB in the public health curriculum. Finally, this study is a foundation for future research on TB and religious leaders as described under the heading on recommendations in Chapter five.

1.6. DEFINITIONS OF TERMS

The following concepts carry such definitions for the purpose of this study:

1.6.1 Congregants: refers to a member of a congregation (Chaney 2008:23). For this study, Congregants are members of religions such as Christianity and Islam.

1.6.2 Participation: refers to an organizational process, in which individuals are involved and have influence on relevant decisions (Irawanto 2015: 161). For this study, participation refers to the involvement of religious leaders in the prevention of TB.

1.6.3 Prevention: means to keep something from happening. Prevention is concerned with avoiding disease (WHO 2002: 9). For this study, prevention refers to religious leaders avoiding TB infection from spreading.

1.6.4 Religious Leader: refers to a person who is recognised by a religious body as having authority within that body (MoHSS 2015:2). For this study, religious leaders will refer to all the persons registered by the Council of Churches in Namibia and Islamic Centre.

1.6.5 Strategies: refers to a pattern of decisions in an organization, which formulates goals, objectives, and purposes, produces principle policies, plans to achieve those goals, and defines the economic and non-economic contribution it is going to make to its stakeholders (Athapaththu 2016: 124). For this study, strategies carry the same definition.

1.6.6 Tuberculosis: refers to a mycobacterial disease that infects any part of the body, especially the lungs. It is characterised by the formation of tubercles in any tissue or organ (Van der Berg & Viljoen 2005:266). In this study, TB refers to Pulmonary TB caused by mycobacterium tuberculosis.

1.7. THEORETICAL FOUNDATION OF THE STUDY

A theory presents a systemic way of understanding events or situations. It is described as a set of concepts, definitions, and propositions that explain or predict events or situations by illustrating the relationship between variables. Furthermore, theories are applicable to a broad variety of situations. Therefore, they are by nature, abstract and do not have a specific content or topic area. Theories have been compared to empty coffee cups; they have shapes and boundaries, but nothing inside. They become useful when filled with practical topics, goals, and problems. This study utilized the Health Belief Model (HBM) and the Social-Ecological Model (SEM). These models guided the development of data collection tools as well as data analysis. Furthermore, they informed the development of the strategies on the influence of the religious leaders in the uptake of TB prevention in the community and the society to ensure health promotion as they are the intermediaries (Jason, Carr, Washington, Hilliard & Mingo 2017: 2).

1.7.1 Health Belief Model (HBM)

The Health Belief Model (HBM) will be used for this study. According to Abraham and Shreeran (2014:31), the HBM focuses on two aspects of individuals' representations of health and health behaviour: threat perception and behavioural evaluation. Threat perception is construed as two key beliefs: perceived susceptibility to illness or health problems, and anticipated severity of the consequences of illnesses. Behavioural evaluation also consists of two distinct sets of beliefs: those concerning the benefits or efficacy of a recommended health behaviour, and those concerning the costs of, or barriers to, enacting the behaviour. In addition, the model proposes that cues to action can activate health behaviour when appropriate beliefs are held. These 'cues' include a diverse range of triggers, including individual perceptions of symptoms, social influence, and health education campaigns. The elements of the HBM can be summarised as follows:

1. Perceived susceptibility- a person believes that they are susceptible to the condition; if religious leaders and congregants have perceptions that there is a possibility to contract TB, it will influence them to participate in prevention.
2. Perceived severity- a person understands the seriousness of the condition; the religious leaders and the congregants must consider TB as a serious disease for them to participate in TB prevention.
3. Perceived benefits- a person believes that if they act, they can reduce the severity of the condition; the religious leaders and the congregants need to see value in taking part in TB prevention to take part in that.
4. Perceived barriers- the person must be convinced that their action will be effective in reducing the severity of the condition (i.e., cost does not outweigh the benefit); barriers like culture, lack of knowledge embarrassment need to be cleared to ensure active participation of religious leaders in TB prevention. This is also addressed by the SEM below.
5. Cues to action- internal or external triggers that affect the readiness of the person to act; the religious leader need to be determined to participate in TB prevention so that

they do not feel coerced to do so. That is why they will be involved in the development of these strategies.

6. Self-efficacy- the person's ability to take the required action: the religious leaders will only be able to take part in TB prevention if they feel empowered enough to take up the responsibility.

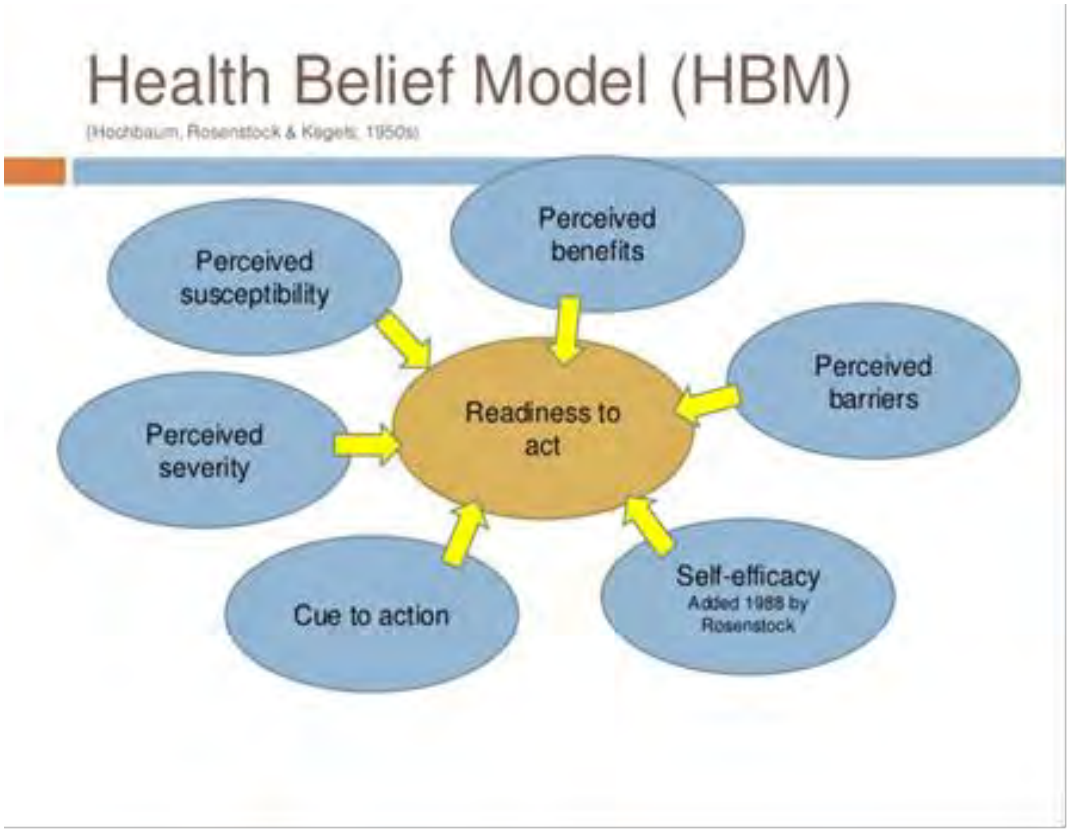


Figure 1.1: Health Belief Model (HBM)

(Abraham & Shreeran 2014:31)

1.7.1. Social Ecological Model (SEM)

The Social Ecological Model (SEM) is a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviour and for identifying behavioural and organizational leverage points and intermediaries for health promotion within organizations (Jason, Carr, Washington, Hilliard,

& Mingo 2017: 10). In this study, the religious leaders were considered the intermediaries for prevention of TB in their communities. The SEM has five hierarchical levels:

1. Individual: Characteristics of religious leaders that influence behaviour change, including knowledge, attitudes, behaviour, self-efficacy, developmental history, gender, age, religious identity, racial/ethnic identity, sexual orientation, economic status, financial resources, values, goals, expectations, literacy, stigma, and others.

2. Interpersonal: Formal (and informal) social networks and social support systems that influence individual behaviours, including family, friends, peers, co-workers, religious networks, customs, or traditions.

3. Community: Relationships among organizations, institutions, and informational networks within defined boundaries, including the built environment (e.g., parks), village associations, community leaders, businesses, and transportation which can either enhance or be a stumbling block in prevention of TB by religious leaders.

4. Organizational: Organizations or social institutions with rules and regulations for operations that affect how, or how well the strategies can be utilized.

5. Policy/Enabling Environment: Local, state, national and global laws and policies, including policies regarding the allocation of resources for TB prevention.

Figure1.2 Social Ecological Model

(Jason et al 2017 :10)

1.8. RESEARCH DESIGN AND METHOD

Research design has been defined as the blueprint on how the researcher plans to conduct the research (Creswell 2014:105). This plan includes selection of the research participants and obtaining of the information to address the research problem under investigation. The underlying concept in research design is to define the structure of the study into a research problem to yield a well-founded argument for the researcher's readers within the time and resources available (Creswell 2014:105). According to Almalki (2016: 290), research methods are tools used by the researcher during the investigation. The research design and methods utilized in the study have been presented below and in Chapter three of the study.

1.8.1. Research design

This study utilised a mixed method study using a convergent design. This design allows data to be collected and be analysed separately and be synthesized or converged later (Almalki 2016: 292). In this research study, data for Phase one and round one of Phase two were collected and analysed separately and concurrently. Thereafter, part of the results from Phase one and round one of Phase two were synthesised to develop Round two

questionnaire for Phase two. Lastly, the validation of the strategies for prevention of TB by religious leaders was done.

1.8.1.1 Phase one

A quantitative descriptive design was used for this Phase of the study. According to Polit and Beck (2017:206) descriptive research is a non-experimental study that observes, describes and documents aspects of a human situation as it naturally occurs and sometimes serves as a starting point for hypothesis generation or theory development. This design, therefore, enabled the description of the knowledge and attitudes of TB and practices of TB prevention amongst religious leaders and congregants in Khomas Region, Namibia.

1.8.1.2 Phase two

A sequential mixed method design was used for this Phase of the study with Delphi technique. Qualitative exploratory and contextual design was used on round one of the Delphi technique. Qualitative research is holistic and is aimed at understanding the whole (Polit & Beck 2017: 463). Therefore, this design enabled the researcher to explore and describe strategies for prevention of TB by religious leaders. On the other hand, quantitative descriptive design was used on round two and round three of the Delphi technique to reach a group consensus on the strategies to enhance participation in the prevention of TB by religious leaders in Khomas Region, Namibia. In Round 1 the 100 participants were given an open-ended question to outline strategies for TB prevention that best fit their religious beliefs. The results of Round one were content analysed and integrated with the strategies developed from Phase 1 to develop Round two questionnaire which was circulated to the same participants to reach a group consensus at Round three.

1.9. VALIDATION OF THE STRATEGIES

Strategies developed on Phase two were sent to 10 experts in TB for validation. These strategies were listed in a form and the experts had to indicate their choice by ticking yes or no against each strategy and provide a comment as necessary.

1.10. RESEARCH METHODOLOGY

1.10.1 Population

1.10.1.1 Phase one

1.10.1.1.1 Research Population for Phase one

According to Brink, van der Walt and van Rensburg (2018:116) and Polit and Beck (2017: 249) research population is the whole aggregation of the cases of interest to the researcher. As a result, the population for this Phase included all the religious leaders and congregants in Khomas Region, Namibia.

1.10.1.1.2 Sampling procedure for Phase one

Brink et al (2018:115) defined sampling as a process of choosing the sample from a population of interest to the researcher to obtain information regarding the subject under study in a way that represents the study population. A consecutive sampling technique was used to select all the religious leaders registered in Namibia. Polit and Beck (2017: 254) defined consecutive sampling as the recruitment of all the people who meet the eligibility criteria from an accessible population over a specified period to participate in study. Therefore, all the consenting religious leaders were included in this study.

Snowball sampling was also used in this Phase of this study. This is whereby participants of a study refer the researcher to other participants with similar characteristics (Brink et al 2018:127). In this study, the participants who were congregants referred the researcher to other congregants.

1.10.1.1.3 Data collection tools for Phase one

The questionnaire composed of section A (demographic data) and section B (KAP on TB questions) and unstructured question on strategies for TB prevention that best fit religious beliefs of the participants was developed using published literature.

1.10.1.1.4 Data analysis for Phase one

Data was analysed by using Moon Stats 2018, version 2.0 software package. A password was used to ensure confidentiality of the files. Data cleaning was performed prior to analysis to determine missing values and the distribution (normality) of the variables. Descriptive statistics were applied wherever appropriate. Descriptive statistics were used to describe participants' demographic information and KAP of TB among religious leaders and congregants. Quantitative content analysis was used to analyse the unstructured questions.

1.10.2 Phase two

1.10.2.1 Research Population for Phase two

The research population for this Phase was religious leaders and congregants with expertise in religion and TB who did not take part in Phase one of this study.

1.10.2.2 Sampling for Phase two

For this Phase, a purposive sampling technique was used to select 100 participants. Participants for this Phase were purposely selected based on their expertise in religion and TB.

1.10.2.3 Data collection tools for Phase two

Data was collected using a semi-structured questionnaire for the first round. All the other subsequent rounds used structured questionnaires developed from round one.

1.10.2.4 Data analysis for Phase two

The results of the first round were analysed using content analysis. Thereafter, the results for the subsequent round were analysed using Moon Stats 2018 version 2.0 software package. Detailed description on data analysis is presented in Chapter three of this study.

1.11. Ethical considerations

The researcher adhered to ethical considerations pertaining the rights of the participants, the institutions and scientific integrity of the researcher. Furthermore, trustworthiness, validity and reliability measures were applied to ensure data quality. A comprehensive discussion of the ethical considerations and data quality is in Chapter three.

1.12. SCOPE OF THE STUDY

The study was conducted among religious leaders and congregants in Khomas Region, Namibia due to limited resources of the researcher. Therefore, the results of this study can only be generalized to this region. The map below illustrates Khomas Region as part of the fourteen (14) regions of Namibia.

Figure 3.1: Namibia and its 14 administrative regions

(MoHSS 2017: 1)

1.13. STRUCTURE OF THE RESEARCH STUDY

The sequence of this study is as follows:

- Chapter one: Orientation of the study
- Chapter two: Literature Review
- Chapter three: Research Design and Methodology
- Chapter four: Data presentation, Analysis and Description of the Research Findings

- Chapter five: Discussion of Research Findings
- Chapter six: Proposed Implementation of the Strategies for prevention of TB by religious leaders in Khomas Region, Namibia
- Chapter seven: Conclusions and recommendations

1.14. CONCLUSION

This chapter highlighted a synopsis of the background to the research problem, the problem statement, the purpose and objectives of the research study, the significance of the research study, definition of key concepts, summary of research design and methods, and the scope of the study. In Chapter two, the findings on literature review on the study subject are discussed comprehensively.

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

Chapter one outlined the orientation of the study. Chapter two discusses narrative literature review which was conducted relevant to this study. Brink et al (2018: 26) described literature review as a process of finding, reading, understanding, and reaching conclusions about the published research and theory and presenting it in an orderly and organized manner. Burns and Grove (2017:96) explained literature review as a systematic and explicit approach to the identification, retrieval, and bibliographical management of independent studies for the purpose of locating information on a specific topic, synthesizing conclusions, identifying areas for future studies, and developing guidelines for clinical research. In contrast to the two definitions described above, Polit and Beck (2018: 87) refers to literature review as a critical summary of the existing knowledge on the topic, often prepared to contextualize the research problem.

For this study, literature review was conducted to determine what is already known about the topic therefore getting a comprehensive picture of the current knowledge baseline to prevent investigating a problem that is saturated with empirical coverage. Literature review guided the methodology and formulation of data collection tools for this study as well as the interpretation of the study results. Furthermore, the theoretical framework of this study was guided by the literature.

2.2. INSTITUTIONAL FRAMEWORK FOR TB PREVENTION AND CARE IN NAMIBIA

There has been a decrease in TB rates since 2004 in Namibia however, TB remains a public health concern in this country (Ministry of Health and Social Services, 2017:5). All the activities pertaining to TB prevention and care are hosted by the Ministry of Health and Social Services, with its headquarters in the capital city of Windhoek. TB activities are partnered with Leprosy care and prevention. The institutional framework for TB prevention and care in Namibia is discussed in this section.

2.2.1 Health care facilities

Services for TB prevention are delivered through an inter network of health care facilities across the country in Namibia. That is, hospitals, health centres, clinics, and outreach points (MoHSS 2017: 13 and MoHSS 2019: 4). These facilities are both state and privately owned as indicated in Table 2.1 below.

TABLE 2.1: HEALTH CARE FACILITIES IN NAMIBIA

Type of facility	Public sector	Private sector
Hospitals	48	13
Health centres	52	8
Primary care clinics	370	75
Primary care clinics with pharmacies	0	637
Mobile outreach clinics	1150	0

(MoHSS 2017:13)

2.2.2 The National Tuberculosis and Leprosy Programme (NTLP)

The NTLP is housed in the Directorate of Special Programmes (DSP) within the Ministry of Health and Social Services (MoHSS). The strategic objective of the NTLP is to spearhead the implementation of TB interventions in Namibia (MoHSS 2017: 13). The NTLP was established in 1991. By then it was housed in the Directorate of Primary Health Care (PHC). In 2004, NTLP was moved to the DSP. The national guidelines for TB management are implemented through the Medium-term plan for TB (MTLP) (MoHSS 2019:1).

2.2.3 Regional, district, facility, and community levels

The MoHSS is responsible for the coordination of health services at a sub-national level in fourteen administrative regions and thirty-five health districts. Each of the 14 regions is headed by the regional director assisted by the chief medical officer (CMO). The CMO is responsible for the coordination of all the public health interventions which include TB. There is no substantive official focal point for TB prevention and care at regional level. All the activities for TB are managed by the Chief Health Programmes Officer (CHPO) and the

Senior Health Programmes Officer (SHPO) who are also responsible for other diseases i.e., STIs, HIV, Leprosy and Malaria (MoHSS 2019: 3).

The district level is responsible for supervision of clinics and health centres for all health care services headed by the Senior Medical Officer (SMO). At this level, there are two substantive registered nurses responsible for activities on TB, Leprosy, HIV, STIs, and Malaria. There is normally a non-substantive TB and Leprosy coordinator at this level. At facility level, nurses are allocated to the TB clinic on a rotational basis even though some nurses have permanent positions in TB clinics (MoHSS 2019: 3).

TB prevention and care activities have been extended to the communities where they are spearheaded by the community-based organisations (CBOs) using the lay care providers who are trained on the basic care and prevention of TB. There are also community health workers who cement the delivery of TB services at community levels (MoHSS 2017: 14).

2.2.4 Multi sectoral coordination

The implementation of the multi-sectoral initiatives to address TB are directed by the TB and Leprosy National Steering Committee (TBL-NSC) across the whole country. The TBL-NSC is a multi-sectoral forum which include other MoHSS directorates, other line ministries including (education, labour, agriculture, correctional services police, defence, mining, poverty eradication, immigration, civil registration, and urban development), civil society, technical partners, funding agencies and the private sector. The TBL-NSC advises the NTLP and other stakeholders (MoHSS 2017: 14).

2.3 COMMUNITY BASED TB CARE (CBTC) PARTNERSHIP IN NAMIBIA

The adoption and implementation of the CBTC has contributed to a significant improvement to the vital TB indicators such as treatment success rate and consequently reversed possible outcomes such as lost cases and treatment failures (MoHSS 2016: 18). The CBTC organizations are operational in all the fourteen administrative regions of Namibia. These CBTC organisations utilize a different approach to TB care and prevention: patient support for direct observed treatment (DOT), community education, contact tracing and case finding.

Advocacy, Communication and Social Mobilisation (ACSM) activities forms part of the CBTC. Although this strategy was formulated under the Stop TB WHO strategy which has been reviewed to the WHO End TB strategy, and the Second Medium Term Plan for Tuberculosis and Leprosy by MoHSS which has also ended, this strategy is key in setting a foundation for the involvement of the religious leaders in TB prevention and care. However, TB ACSM strategies have been embedded into the Third Medium Term Plan for TB and Leprosy by MoHSS. For this study, a brief discussion on TB ACSM and CBTC is discussed as a subsection of this section to illuminate the vitality of religion in TB prevention and care in Namibia.

2.3.1. CBTC partners

2.3.1.1 United States Centre for Disease Control and Prevention (CDC) Namibia

CDC is responsible for technical and logistic support for TB diagnostic and laboratory quality management, institutional capacity building for TB, TB/HIV and DR-TB management and implementation of activities to address TB/HIV Management of Science for Health (MoHSS 2066: 18).

2.3.1.2 Other organisations

The following partners are non-profit registered organisations responsible for community health education, TB case finding and treatment support in respective regions as outlined below. These organisations are funded by Global Fund except CoHeNa which is funded by USAID and Johanniter Hilfswerk (JH) which is a German welfare organisation (MoHSS 2016:18). The reports from these partners are facilitated monthly by a TB Field Reporter (TBFP).

1. Advanced Community Health Care Services Namibia (CoHeNa): Omaheke and Hardap Regions.
2. Health Poverty Action: Grootfontein District
3. Health Works Business Coalition: Khomas, //Kharas, Otjozondjupa, and Erongo Regions
4. Johanniter Hilfswerk: Rundu District

5. Namibia Red Cross Society (NRCS)
6. Penduka TB Programme: Khomas Region (Windhoek District)

It is key to note that all these partner organisations are non-religious based. Therefore, this bridges a gap in the involvement of religion in TB prevention and care in Namibia. This raises eyebrows towards religion.

2.4. ACSM STRATEGIES IN NAMIBIA

Although ACSM strategies have been absorbed into the Third Medium Term Plan for Tuberculosis and Leprosy, it is vital to trace the background of the ACSM strategies in Namibia because they illuminate the expected involvement of religion in TB prevention and care. The ACSM strategies were developed as a driving force for the WHO Stop TB Strategy and the TBL MTP-II which emphasized the involvement of all stakeholders in TB care and prevention. The TBL MTP-II formed a medium for engagement of the stakeholders, people with TB and affected communities (MoHSS 2013:1).

The ACSM strategies were developed on a four-day consultative stakeholder workshop in June 2012. This strategy had five goals and strategic results. For the purpose of this study, only strategic results 1 and 5 will be described here (MoHSS 2013:3).

2.4.4.1. Strategic result 1: Improved health seeking behaviour by people with symptoms of TB

The strategic result 1 aimed at several activities including engaging and empowering community leaders, church leaders, schools, and traditional healers in the early TB case detection in their communities. Sub-activities around this strategy included community training of trainers on TB targeting community and traditional leaders at regional levels. Linkages were to be established between local leadership and health care facilities and civil society organisations (MoHSS 2013:5). Although literature does not seem to reveal the evaluation of the success and failures of this strategy, this could be key in reduction of TB incidence cases in Namibia. If religious leaders are to be trained to be trainers on TB prevention and care, it could bring a big impact on the burden of TB given the fact that the

Namibian population subscribe to religion. The researcher seems to find a literature deficiency in this aspect.

2.4.4.2. Strategic result 5: Improved treatment adherence among patients on treatment for TB

Among other activities, this strategy intended to engage patients, community leaders and commercial sector/ institutions/ churches to support patients with TB. The researcher noted a loophole in the sub-activities tailored for this strategy which could lead to possible failure. Sub-activities were tailored to developing information, education, and communication materials about TB, conducting TB awareness sessions as well as establishing networks with commercial sectors and institutions to segment support systems for patients with TB (MoHSS 2013: 8). There seems to be no explicit role of religion on this strategy.

Although there seems to be gaps in this strategy, the decentralisation of the strategy called for localisation of the strategy to meet the needs of the local communities. To the best knowledge of the researcher, literature seems amiss to explain the roll out of this strategy to religion in Namibia.

2.5 KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) OF TB

Exploration of literature has revealed a vast amount of studies on KAP in the communities and among health workers. The researcher used maximum search engines to get the literature on this topic such as EBSCO*host.* The results are critically discussed in this section. The researcher extended the search to religion and health to conceptualize the function of religion in health. A comprehensive discussion of the knowledge, attitudes and practices are discussed in the subsequent section. The reasons for this could be that religious leaders are part of the communities studied.

2.5.1 Knowledge of TB

A KAP study conducted in Thailand by (Pengpid *et al.*, 2016: 696) among the general population, migrant workers and the minority ethnic groups found that the public scored

average on the knowledge of TB while the migrant workers and the minority ethnic groups score significantly low on the knowledge of TB. Knowledge questions included causes of TB, signs and symptoms, treatment, and prevention of TB. Pengpid *et al.*, (2016:700) further compared the level of knowledge between the participants who had a family member with TB and those who did not. The knowledge of TB prevention was higher among the participants with a family member diagnosed with TB as compared to those who did not. With these results, it can be inferred that if individuals feel at risk of contracting a disease, they could be more motivated to find out more about the condition to prevent infection. Being a Buddhist, higher education, higher income and knowing a person who was infected with TB were some of the factors that contributed to high knowledge of TB in this study (Pengpid *et al.*, 2016:700). It is key to highlight the surfacing of religion in this study as a factor influencing high knowledge of TB.

Howley, Katz and Colson (2016:4) studied the knowledge, attitudes and behaviour among the United States of America born Whites and Blacks while Zhang *et al.*, (2016:1344) conducted a TB KAP study in China among the participants with TB and the ones without TB. The results of these two studies converged with the Pengpid et al (2016: 701) study, which captured that participant who had good knowledge of TB were reflected by being aware that a person could have latent TB and not get sick. Furthermore, Howley et al, (2016:4) found that the participants had knowledge that TB bacteria can be spread from one person to the other through the air and TB can be cured by taking medications. A TB KAP study in Bangladesh by Paul *et al.*, (2015:4) found similar results that patients infected with TB can be cured by taking medications as directed by the doctor. However, three quarters of the participants had wrong knowledge on the transmission of TB. According to Howley, Katz and Colson, (2016:5) people with latent TB are very contagious and could transmit TB through sharing dishes, bottles, or a toothbrush.

While knowledge of TB is evidently good in the first world countries as seen above, literature critique was conducted to mirror this in Africa and in the SADC Region. A study conducted by Sima, Belachew and Abebe (2017:6) on knowledge, attitude, and perceived stigma towards TB among pastoralists community in Ethiopia found that a low proportion of pastoralists mentioned bacilli (bacteria) as the cause of TB while a high proportion mentioned

witchcraft as the cause of TB. With regards to TB prevention, Sima et al (2017:6) found that a low proportion of pastoralists believed that TB is preventable. Majority of the pastoralists mentioned that most people would reject a TB patient in their community. In Nigeria, Hassan, Olukolade, Ogbuji, Afolabi, Okwuonye, Kusimo, Osho, Osinowo, and Ladipo (2017:5) also conducted a TB KAP study which found that majority of the community members had heard about TB prior to the study, however they did not know the causes and the symptoms of TB. The current study also found a strong relationship between level of education and knowledge of TB as the highly qualified participants knew the causes and symptoms of TB.

Regionally, literature captured a TB KAP study done in the Republic of South Africa by Naidoo, Simbayi, Labadarios, Ntsepe, Bikitsha, Khan, Sewpaul, Moyo & Rehle (2016:6). This study found that the predictors of TB knowledge were race, sex, completion of high school, being employed, having a diagnosis of the disease in ones' lifetime. Participants with these predictors had good knowledge of TB as found in Nigeria by Hassan *et al.*, (2017:5). In Botswana, a TB KAP study conducted in eight different communities by (Musuka *et al.*, 2018: 3) found that TB was attributed to having sex with a woman who had a miscarriage, food poisoning or sleeping with a widow among few of the participants whereas majority had good knowledge of TB. These results can be likened to (Howley, Katz and Colson, (2016:5) on similar subjects as reflected above.

2.5.2 Attitudes towards TB

Attitude towards TB is very important in TB prevention because it influences the individual's willingness to participate in TB prevention. A TB KAP study done in Saudi Arabia found that most participants had a negative attitude against TB with the majority of the participants claiming that they will never suffer from TB, and they will avoid interaction with a person with TB (Aseeri, Turkestani and Alamri, 2018:2423). Similarly, in Malaysia, Mohd Salleh *et al.*, (2018:302) found that the overall attitude of the respondents towards TB was poor with at least half of the respondents believing they are not at risk of getting TB as well as their families. This is a dangerous attitude as it might cause delays in seeking medical attention for TB even if the symptoms are all there.

Kasa, Minibel and Bantie, (2019:8) conducted a study in Ethiopia among the pastoralists which revealed that participants were afraid of contracting TB. However, they will discuss their condition with their spouses if they could be infected with TB while only a handful will support a person infected with TB. In contrast to this study, Hassan *et al.*, (2017:3) found a positive attitude towards TB indicated by a good attitude towards TB treatment in a study conducted in Nigeria. These diverse results on attitudes towards TB reflect a critical need for attitude check to prevent TB.

2.5.3 Practices towards TB prevention

In Malaysia, Mohd Salleh *et al.*, (2018:302) TB KAP study found that the practices of participants towards TB prevention were moderate. Only a few participants had positive TB prevention strategies like wearing a mask in public if they would be diagnosed with TB. However, almost all the participants in this study indicated that they would immediately go to the hospital if they experience TB signs and symptoms. Similar results emerged in Saudi Arabia whereby Aseeri, Turkestani and Alamri, (2018:2423) and in China by Zhang *et al.*, (2016:1344). If this can be consistent in the rest of the world and Namibia, the WHO End TB Strategy can be a reality.

Literature surf continues to capture good practices on TB prevention in Ethiopia, where the participants indicated that they would open windows to ensure good ventilation if they were to contract TB (Kasa, Minibel & Bantie, 2019:3).

2.6 RELIGION, FAITH AND HEALTH

To understand the reason why this current study is focussing on religious leaders, a discussion on religion and health is presented. This section gives synopsis of history of religion and health as well as the importance of religious organisations and leaders in health care. Religious organisations involvement in health care is an ancient concept established popularly referred to as faith-based organisation (FBO). The FBO's were pioneered by the missionaries who accompanied colonizers throughout Asia, Africa, and the Americas. Most of these FBOs are integrated into local communities with distinctive characteristics such as strong commitment to quality of care and support to rural inaccessible communities. The

FBOs attracted a lot of interest in the field of health due to their influence in the communities they serve (Haakenstad *et al.*, 2015:2).

FBOs have played a vital role in health care development (Benn, 2017:575). Benn, (2017:575) pointed out that the health departments have utilised the FBOs for messages to reach masses of people in remote areas. Among many incredible contributions of church and religious organisations in the community, they established schools and hospitals. Of the same interest to the community, faith-based organisations have been instrumental in implantation of human behaviour change programmes in America (Hardison-Moody and Yao, 2019:364) because of their influence in the communities they serve.

All the above studies can be summarized by Heward-Mills *et al.*, (2018:2) where they described faith leaders as key in shaping the behaviour of their congregants. The health behaviour influence is not limited to individuals but extends to socio-cultural and environmental level through scriptural influence, as social influence and as role models. Heward-Mills *et al.*, (2018:2) claims that the congregants view faith leaders as having an immense influence on their health behaviour.

In Namibia, none of the partner organisations for TB prevention and care are faith based. This creates a gap in the health system because the studies described above have stressed the fundamental influence of FBOs in human behaviour. However, the researcher does not discredit those representatives from faith-based organisations are sometimes involved in MoHSS consultative meetings for programme planning. The gap in literature in Namibia on religion and health gives rise to a problem in analysing their level of involvement in health matters regardless of their potential influence because Namibia is a multi-religious country as reflected in Chapter one of this study.

2.7 RELIGION, FAITH AND TB

There have been successful TB programmes rolled out through the religious and faith-based organisations to combat HIV/AIDS and other diseases. Traditional leaders have been involved in health as highlighted in the discussion below. In Nigeria, Berkley Centre (2016: 3) described the importance and the role of religious leaders in TB prevention and care in Nigeria. The community trust religious leaders, therefore, they can be vital in delivering

health education to their congregants. Berkley Centre (2016: 3) asserts that the Nigerian government officials acknowledge that citizens listen to faith leaders more than government officials. Hence training faith leaders on appropriate practices and treatment seeking could bolster TB campaign efforts tremendously. In relation to TB treatment, trained faith community health workers could be instrumental in treatment adherence strengthened by the trust that the community has on them. The trust endorsed to faith leaders by the community is consistent to Namibia. The statistics reflect that almost the whole population subscribe to one religion or the other. The religious leaders can therefore be a good source of information for TB prevention and care.

Nigerian faith leaders have unique characteristics, which is interfaith cooperation. This facilitates a better coordination of TB plans (Berkley Centre, 2016: 4). Faith based organisations have been involved in TB programmes in high TB burden countries like Zambia, Cambodia, and Peru. They were mostly involved in the DOTS strategy (Berkley Centre, 2015:3). FBOs have helped with the fight against stigma attached to persons with TB, reaching out to rural communities, and providing support to the communities affected by TB in different forms like providing food and shelter. The noble question remains “which strategies can be used by religious leaders to prevent TB in their communities?” to utilize the trust they earn in the community.

In America, Koh and Coles (2019:369) and Idler *et al.*, (2019:3) converge with both studies by Berkley Centre (2015 and 2016) that faith-based organisations are important in TB prevention and care. They indicated that there have been some partnerships between the US government and the FBOs in health promotion. However, in Ethiopia the concerns about TB burden called for the attention of traditional leaders. Sima *et al.*, (2019:4) found that the traditional leaders have referred twenty-four patients with TB symptoms to the health facility of which thirteen were confirmed TB cases in a period of one year. This was an incredible event given the facts that these traditional healers did not have any formal training on TB. Contrary, in South Africa, traditional healers use special herbs to treat TB, no referrals to the health facilities were noted in the current literature (Semenya & Maroyi, 2019:403).

2.8 STRATEGIES TO PREVENT TB BY RELIGIOUS LEADERS

A thematic analysis of literature found three strategies which have been used by religious and faith-based leaders to prevent TB.

2.8.1 Health talks on TB

In Tajikistan, an Islamic imam sets aside 15 minutes every Friday to talk about TB to the congregants (USAID 2019: 1). This strategy has been effective in disseminating messages about TB to the remote communities where the print and digital media platforms cannot reach in Tajikistan. This study alluded that talking about TB is a taboo in the communities of Tajikistan however, the imams who had taken it upon themselves to fight against TB in one of the most TB stricken countries said, *"I kept asking myself, why should we keep silent about TB? This is a disease that impacts the lives of so many even though it is entirely preventable and curable, and treatment is free in Tajikistan".* Religious leaders are at a position of power and influence in their local communities therefore, a mindset like the one indicated above is pivotal in fighting against TB. In support of the influence that religious leaders of faith-based leaders have in the community, Khairuzzaman (2016: 1) asserted that they serve as supportive voices, educators, fundraisers, medical aides, and international advocates for their communities.

With the information above, it is imperative to conduct a study in Khomas Region, Namibia that can develop strategies for TB prevention to be led by religious leaders. The researcher would like to believe that the incredible work reported in other countries is possible in Namibia as well. TB prevention partnership activities with religious leaders will be discussed below.

2.8.2 Partnerships with religious leaders

Khairuzzaman (2016: 2), alluded that those partnerships with religious organisations are important in TB prevention. It was already indicated above that these are a group of leaders with influence in the society. They hold the power to allow stigma against people with TB or to diminish the stigma by reaching out to those in need. It is important to indicate that the

implications of stigma against people with TB is very costly as the person may stop their TB treatment and consequently become infectious and continue to transmit the disease. Khairuzzaman (2016: 2) and Benn (2017: 576) agree on the notion that partnership with religious leaders is vital in the success of TB prevention programmes. The question remains whether all these alluded strengths of religious leaders are relevant among the religious leaders in Khomas Region, Namibia.

2.8.3 Counselling

USAID (2019: 1) described counselling as a strategy used in Tajikistan by the Islamic imam to prevent TB. There is a lot of stigma attached to TB hence this imam gives counselling for treatment adherence and motivates health care seeking behaviour among community members with TB like symptoms. Although stigma was highlighted above, it is very important to emphasise that the counselling provided by the religious leaders is very important as they are sometimes seen as intermediaries between the congregants and the supernatural being in some of the religious movements. Incredible contribution of religious leaders has been noted in strengthening health systems in countries like Ethiopia, Mali and Indonesia (Heward-Mills et al. 2018: 5).

2.8.4 Active case finding

Due to the gap in literature, this strategy is borrowed from the CBTC. However, this concept can be functional for FBOs as well. Trained community health care workers (CHCW) were actively sent into the community to screen for TB and refer the suspected TB cases to the health centres in Myanmar. Activities of the CHCW included:

(i) Community health education.
(ii) Screening for TB symptoms of presumptive patients with TB at community level (cough for 2 or more weeks, fever, loss of weight, night sweating and history of contact with smear-positive TB patients).
(iii) Referral of presumptive patients with TB to township TB centres for diagnosis and treatment.
(iv) Providing directly observed treatment (DOT) service to patients with TB; and

(v) Recording and reporting on the community-based TB care activities (Maung *et al.*, 2017:4).

These activities lead to increased TB case notification as well as improved DOTS outcomes. Since the strategy was reliant on volunteers, it became a challenge in sustaining them to continue with the programmes.

2.9 CONCLUSIONS AND IMPLICATIONS

Literature review captured an overview of TB prevention in Namibia whereby the institutional framework was discussed. Namibia has a total number of 1787 of health care facilities dispensing TB services. An assumption is therefore that Namibia is at a good stance in terms of facilities for TB prevention and care at all levels of care i.e., regional, district and local levels. The discussion further highlighted on the measures in place for TB prevention in Namibia led by the Ministry of Health and Social Services as well as different stakeholders such as non-governmental organisations.

Knowledge, attitudes, and practices (KAP) of TB were explored through published literature. There is evidence that there is a somehow good knowledge of TB from previous studies participants. There is evidence of effectiveness of the efforts to educate the public on TB prevention from previous studies. On the attitudes of TB, literature revealed that there is a good number of studies that yielded positive results on the attitude towards TB while few studies found that some participants of their studies had negative attitude towards TB whereby, they either believed that they will never get TB and they are ashamed of contracting it. On the practices of TB prevention literature review concludes that there are good practices of TB prevention such as ensuring that there is ventilation as outlined by previous studies. While literature reviewed covered global and regional focus of KAP of TB, the researcher sought to find out from this study what the situation will be.

The final section of literature review focused on religion and TB. Different studies discussed the role of religion or faith-based organisations in TB prevention and care. Different strategies have been put in place by faith-based organisations or religion to combat TB. Strategies

includes dedicated sermons on TB or health talks, partnerships with other stakeholders in TB activities, counselling and active TB case finding.

Based on the literature, there is hope based on evidence narrated that religion is and will remain a strong stakeholder in TB prevention. There is published proof of successful interventions and strategies for TB prevention by religion. It is worth implying that this study might produce effective strategies for TB prevention in Khomas region, Namibia which can ultimately be transferred to the whole region and possibly to the rest of Namibia.

2.10 CHAPTER SUMMARY

This Chapter dissected literature in relation to the topic under investigation. The framework for TB prevention and care in Namibia was discussed, followed by the role of religion in health and strategies to prevent TB by faith-based leaders. The following chapter discusses the theoretical framework used for this study.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

Chapter two comprehensively discussed literature in relation to the topic under study. This Chapter outlines and discusses the research design and methods used in this research. Discussion is taken further to the sampling framework in the context of the empirical domain of this study. Ethical considerations and issues of validity and reliability of this research study are also discussed here.

3.2 RESEARCH SETTING

Research setting is defined as the physical, social, and cultural site in which the study was conducted by the researcher (Brink, van der Walt & van Rensburg 2018:188). This study was conducted in Khomas Region, Namibia. Khomas Region is one of the fourteen regions of Namibia. It inherits its name from the Khomas Highland, a high plateau landscape that dominates this administrative unit. The region is characterized by its hilly country size and many valleys. Khomas Region occupies 4.5% of the land area of Namibia but has the highest population of any of its regions (16.2%) as the capital city Windhoek is in this region. It is an important fact to highlight that this region is considered the Mecca or the hub for economic freedom by most of the Namibian population therefore, the reason for the high population density (MoHSS 2017:1).

To illuminate more on this study setting, Namibia is described as well. According to the World Bank located in South West Africa, Namibia is an upper to middle income country. It is the fifth biggest country in Africa with about 800 000 square kilometres area. Furthermore, Namibia shares its borders with four countries namely, Angola, Botswana, Zambia and South Africa as well as the Atlantic Ocean. Interestingly, Namibia is considered a rainbow nation due to its diverse ethnical and cultural population distributed in its fourteen administrative regions (MoHSS 2017: 1). According to the National population and housing census conducted in 2011 and a population growth rate of 1.3% per annum, Namibia's population was estimated to be about 2 368 747. This number is divided into 1 151 533 males and 1

217 214 females respectively (MoHSS 2017: 4). According to the International Religious Freedom Report for 2017 (2017: 2) in Namibia, approximately 97 percent of the population identify themselves as Christians. In addition, to the church statistics and the government's 2013 Demographic and Health Survey, this number is divided as 50% Lutheran and 20% Catholic. The rest of the 27% is shared amongst Anglican, various Reformed denominations, Adventist, Baptist, Methodist, Pentecostal, Evangelicals, Charismatics, and The Church of Jesus Christ of Latter-day Saints (Mormons). The number of Pentecostal and Charismatic churches has been mushrooming at a very fast rate. Regardless of this large number of Christian faith population, there is a minority 3% of the population which identify as Muslims, Bahais, Jews, Buddhists and Atheists.

3.3 RESEARCH DESIGN

Research design is defined as the logical steps taken by the researcher to answer the research questions (Brink et al 2018: 81). These steps include selection of the research participants and obtaining of the information to address the research problem under investigation. The underlying concept in research design is to define the structure of the study into a research problem to yield a well-founded argument for the researcher's readers within the time and resources available (Creswell 2017: 97). This study used a convergent mixed method design. This method combines both the qualitative and quantitative data (Wynn & Borrie 2020: 1352).

3.3.1 Convergent mixed method design

This design is also referred to as the triangulation study design. The purpose of the convergent mixed method design is to collect different but complementary data about the study phenomenon (Polit & Beck 2017: 584). Creswell and Clark (2017: 120) defined mixed method design as a research approach in which researchers collect and analyse both quantitative and qualitative data within the same study. The increase in research using mixed methods in nursing and health care came at a time when the complexity of health care is increasing internationally. Mixed-method research is based on the potential advantages of both qualitative and quantitative methods. Although this study is described in different Phases, data for both Phases one and two were collected concurrently with equal priority.

However, Phase two data collection took a longer duration than Phase one due to the Delphi technique used. The convergence of data was done after round one of the Delphi technique. The study flow is presented on Figure 3.2.

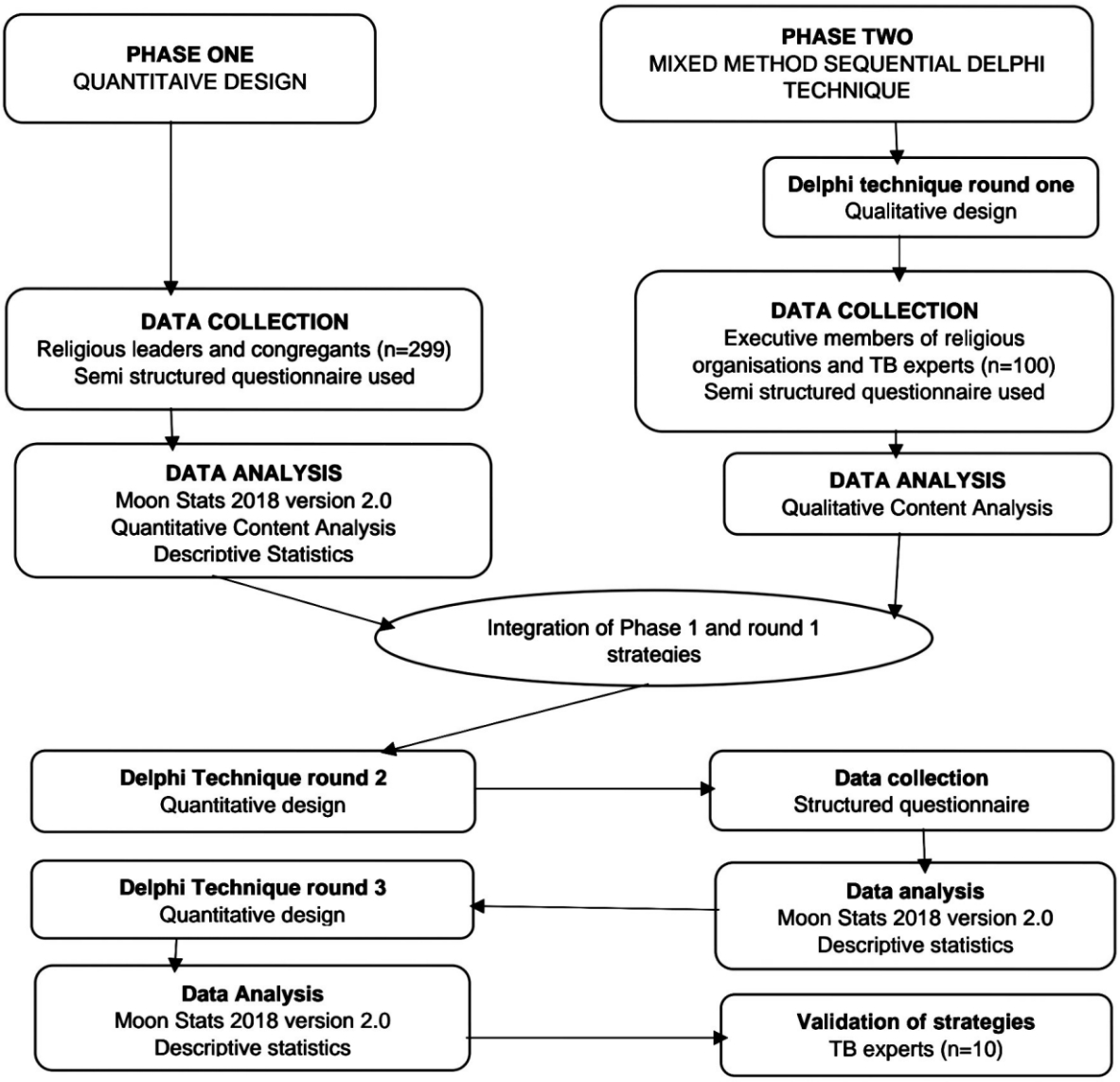


Figure 3.2 Convergent study design

3.3.2 Research design for Phase one

In Phase one of this research study, quantitative descriptive designs were conducted. The objectives of Phase one were to:

1. Determine the knowledge and attitudes of religious leaders and congregants regarding TB in Khomas Region, Namibia.
2. Describe practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia.

3.3.2.1 Quantitative design

Creswell (2017: 102) and Burns and Grove (2017: 40) define quantitative research as a mode of enquiry aimed at testing theories and hypotheses as well as collecting descriptive information and examining relationships between variables. In this type of research, the researcher remains objective in seeking appropriate measurements and in analysing target concepts in responding to the research inquiry. It is further asserted that quantitative research methods are designed to provide summaries of data which allows generalisations of the phenomenon being studied. Therefore, this study followed this design in order to examine the knowledge, attitudes of TB and practices of TB prevention among religious leaders and congregants in order to develop strategies for TB prevention. Furthermore, this design allowed collection of a large volume of data and analysis.

With all the benefits attached to quantitative research designs, they have been condemned on the basis that the data collected may miss contextual detail, though it is more efficient and able to test hypotheses (Creswell 2017: 103). Additionally, there is use of a static and rigid approach that does not allow flexibility in the process of the study. The development of the data collection tools (Questionnaires) can have "structural bias" leading to false representation, where the data reflects the view of the researcher instead of the research participants. Furthermore, there are limited details in terms of knowledge attitudes and behaviour. Limitations of this design are described under the study limitations in detail.

3.3.2.2 Descriptive research

According to Polit and Beck (2017: 206) descriptive research is a non-experimental study that observes, describes and documents aspects of a human situation as it naturally occurs and sometimes serves as a starting point for hypothesis generation or theory development. Brink van der Walt and van Rensburg (2018: 96) added that descriptive study designs are

critical if there is more information in a particular field. This design describes the variable to answer the research question, but there is no intention of establishing the cause-effect relationship. Gray, Grove and Sutherland (2017: 136) added that descriptive designs can be used to identify problems on a current practice, to justify current practice and, to make judgements or to determine what has been done by other professionals in a similar field and to develop theories. This design, therefore, enabled the description of the knowledge and attitudes of TB and practices of TB prevention amongst religious leaders and congregants in Khomas Region, Namibia.

3.4 RESEARCH METHODS FOR PHASE ONE

According to Almalki (2016: 290), research methods are tools used by the researcher during the investigation. Furthermore, Brink et al (2017:187) describes research methods as the route taken during the investigation that is, what the researcher did to solve the research problem, or to answer the research questions. It should contain enough detail to enable any other researcher to replicate the investigation and the selected methodology should be well motivated. The methodology considers the population, sampling frame, approach and technique, sample size, data collection method, and data processing and analysis, as well as the strategies to enhance methodological integrity and scientific rigor. The research methods for Phase one are discussed underneath.

3.4.1 Research Population for Phase one

Research population is the whole aggregation of the cases of interest to the researcher (Brink, van der Walt & van Rensburg, 2018: 116; Polit & Beck, 2017: 249). The population of interest for this Phase was all the religious leaders registered in their respective religious organizations as well as their congregants. The total number of religious leaders was 97 and congregants were 295 523.

3.4.2 Sampling for Phase one

Sampling is defined as the process of selecting or choosing the sample from a population of interest to the researcher to obtain information regarding the subject under study in a way

that represents the study population (Brink et al 2018: 115). This study utilized non-probability sampling methods. Brink et al (2018: 124) indicated that non-probability sampling requires the researcher to assess and elect the participants who have good understanding and knowledge of the subject under investigation and can articulate nuances. Therefore, the researcher employed two different sampling methods.

3.4.2.1 Consecutive sampling

A consecutive sampling technique was used to select all the religious leaders registered with their religious organisations in Khomas Region, Namibia. Consecutive sampling refers to the recruitment of all the people who meet the eligibility criteria from an accessible population over a specified period (Polit & Beck 2017: 254). Therefore, all the consenting religious leaders were included in this study because the sample was significantly small.

3.4.2.2 Snowball sampling

Snowball sampling method was used to select the congregants. Brink van der Walt and van Rensburg (2018: 127) described that snowball sampling is used when the desired participants are difficult to get. Therefore, the researcher identifies one participant who then refers the researcher to the other participants. This sampling method facilitated a smooth data collection process as the congregants referred the researcher to the other congregants. They provided addresses and contact details.

3.4.4.2.1. Inclusion criteria

Inclusion criteria is a set of predefined characteristics used to identify subjects who will be included in a research study (Stern, Jordan & McArthur 2014: 37). Inclusion criteria, along with exclusion criteria, make up the selection or eligibility criteria used to rule in or out the target population for a research study. This should respond to the scientific objectives of the study and are critical to accomplish it. The following were included in this study:

- All religious leaders at the age of 18 years and above who gave consent to participate in the study and who could read and write.

- Congregants at the age of 18 years and above who consented to participate in the study and who could read and write.

3.4.4.2.2 Exclusion criteria

Exclusion criteria is a set of predefined definitions that is used to identify subjects who will not be included or who will have to withdraw from a research study after being included (Stern, Jordan & McArthur 2014: 38). Together with the inclusion criteria, exclusion criteria make up the eligibility criteria that rule in or out the participants in a research study. Similar to inclusion criteria, the exclusion criteria are guided by the scientific objectives of the study and have important implications for the scientific rigor of a study as well as for assurance of ethical principles. The following were the exclusion criteria of this study:

- Religious leaders and congregants below the age of 18 years old.
- Religious leaders and congregants who did not consent to participate in this study.

3.4.3 Sample size for Phase one

Sample size refers to the number of participants included in the study. The selected sample should reflect representativeness of the whole population in as many ways as possible (Brink et al, 2018: 117). The sample size of the study was calculated using Rao soft sample calculator. The sample size was calculated at 5% margin error and 95% confidence level. The recommended sample size was 384. However, 299 participated in this study.

3.4.4 Data collection for Phase one

According to Grove and Gray (2015:309), data collection refers to the process of acquiring subjects and collecting data. This process is different in different studies based on the study design and measurements techniques (Grove & Gray 2015:310). In this study, the data was collected by the researcher from March 2020 to September 2020. The type of method used for data collection in this study was a self-administered questionnaire and the detailed information has been provided underneath (Annexure L). The researcher got approval from religious organisations before commencing with data collection. The religious organisations

were instrumental in providing a list of their member churches with contact details. Paper based data was collected before stage 1 Covid-19 pandemic state of emergency lockdown. The participants were given the information sheet to read and ask questions from the researcher and complete the informed consent form before completing the questionnaire.

Thereafter, the questionnaires were entered on google forms and emailed to the participants due to the Covid-19 lockdown regulations which restricted movements. The google forms were structured in three sections. Section 1 was the information to the participants. Below that was a compulsory section where the participants were expected to indicate their voluntary participation in the study before moving to the section with the questionnaire. In the same vein when the Covid-19 regulations were relaxed to allow movements, questionnaires were completed on an electronic tablet to minimize risk of Covid-19 transmission through paper-based data. The response rate for Phase one of this research study was (299) 77.9% while the non-response rate was (85) 22.1%. This number comprises of 37 paper-based questionnaires with 100% response rate, and 247 participants for google forms questionnaires where 262 (85%) response rate was achieved. The non-response rate recorded from the google forms was 85 (15%). Follow up was made for all the participants who did not complete the questionnaire, but they still failed to comply with the researcher's plea.

3.4.4.1 Data collection tools for Phase one

The semi structured questionnaire (Annexure L) was developed with the aid of literature on the Knowledge, Attitudes on TB, and Practices on TB prevention. Polit and Beck (2017:270) described a self-administered questionnaire as an instrument whereby the participants of the study complete the instrument themselves. While this was a preferred data collection tool, Brink et al (2018: 139) outlines the advantages and disadvantages of questionnaires as tabulated in Table 3.1 below.

TABLE 3.1 ADVANTAGES AND DISADVANTAGES OF QUESTIONNAIRES

Advantages	Disadvantages
● They are a quick way of gathering large volumes of data from many participants. ● They are relatively cheap in terms of time and financial resources. ● They are the easiest instruments for testing reliability and validity. ● There is a high possibility of getting honest answers from the participants as they feel a more sense of anonymity. ● They use a standard format for all the participants.	● There may be cost implications in emailing the questionnaire. ● There is a possibility of low response rate. ● Sometimes the respondents may provide socially acceptable responses. ● There may be no opportunity to clarify the questions to the respondents. ● Participants should be able to read and write. ● The respondents might not necessarily be a representative of the population being investigated.

The questionnaire captured the socio-demographic characteristics of the participants, knowledge, and attitudes on TB as well as their practices on TB prevention.

3.4.4.2. Pre-testing the questionnaire

According to Brink et al (2018: 161) pre-testing is done to detect any flaws in the research instrument such as ambiguous questions, instructions as well as to assess whether the time allocation for the completion of the questionnaire is appropriate. Pre-test also assists the researcher to determine whether the variables defined in the operational definitions are observable and measurable. In this study, the questionnaire was pre-tested in Khomas Region on ten congregants who did not form part of the research sample. After pretesting, corrections were made on the questionnaire to clear ambiguities. There were questions which the participants could not understand, and the researcher added some questions which were overlooked in preparing the first draft of the questionnaire.

3.4.4.3 Data management and analysis for Phase one

After data collection, both the paper-based data and soft copies of data were cleaned for completeness before entering it in Microsoft Excel. Thereafter, the structured data was

exported to Moon Stats 2018 version 2.0 software package for analysis. Descriptive statistics were applied (frequencies and percentages). There were no inferential statistics applied because the objective of this study is to develop strategies for TB prevention by religious leaders but not to measure the relationship between the variables. The results were used to describe participants' demographic information, knowledge and attitudes of the participants on TB and their practices on TB prevention.

Open ended questions were content analysed. According to Polit and Beck (2017: 537), content analysis is a family of analytic approaches that ranges from intuitive and impressionistic analyses to systemic and strict textual analyses. Quantitative researchers may perform content analysis by counting similar words or phrases. In this research study, the researcher read through all the data collected to understand the content and familiarize himself with the data. Thereafter, the researcher generated codes to structure the data. Lastly, the themes were generated and exported to Moon Stats version 2.0 software for statistical analysis. Only descriptive statistics were applied in terms of frequencies and percentages. The data was presented in a table.

3.5 DATA QUALITY FOR PHASE ONE

In this study, the data quality was ensured by the quality of the research instrument used for data collection. Reliability and validity of the data collection instrument is described below.

3.5.1 Validity

According to Polit and Beck (2017:309), validity is the soundness of the study evidence, that is, whether the findings are unbiased, cogent, and well grounded. The researcher ensured validity by employing content validity, construct validity and face validity of the instrument as discussed below.

3.5.1.1 Content validity

Brink van Der Walt and van Rensburg (2018:152) define content validity as ensuring that all major elements relevant to the construct, which is being measured, are included in the method of measurement. To ensure content validity, the researcher gathered knowledge about the study phenomenon. Thereafter, the researcher compiled the questionnaire with reference to literature on similar studies.

3.5.1.2 Construct validity

Refers to an evaluation of the degree to which an instrument measures the construct the researcher wishes to measure (Brink et al 2018:154). To ensure construct validity, the questionnaire was pretested on 10 religious leaders and congregants to ensure that the instrument measures what it claims to measure.

3.5.1.3 Face validity

Face validity refers to measurements, which appear to be measuring an item under study (Brink et al 2018:152). To ensure face validity, the research supervisors reviewed the instrument to ensure the quality of questions. A statistician also assessed the questionnaire before data collection to clear out any statistical errors.

3.5.2 Reliability of research

Polit and Beck (2017:303) define reliability as the accuracy and consistency of the information obtained in the study. Therefore, reliability of the study is based on the extent to which a questionnaire tests or measures and produces the same results on repeated trials. In short, it is the stability or consistency of scores over time. Therefore, structured questionnaires were designed based on previous similar studies in relation to the objectives of the study.

3.6 RESEARCH DESIGN FOR PHASE TWO

Research design was described above. This Phase followed a sequential mixed method research design using a Delphi technique. Explorative, descriptive, and contextual designs were also employed in this study as discussed underneath. The objective of Phase two was to:

> Develop strategies to enhance participation in the prevention of TB by religious leaders which ultimately influence prevention of TB in the societies and the communities of Khomas Region, Namibia.

3.6.1 Sequential mixed method design

Polit and Beck (2017: 582) described sequential mixed method design as a design whereby qualitative and quantitative data are collected and analysed separately. Normally, the collection and analysis of the first Phase of data analysis informs the collection and analysis of the next Phase. In this study, the data collected in round one was analysed and informed the compilation of the data collection tools for round two while round two results informed data collection tools formulation and analysis for round three. The advantages of this design in this study are as follows:

- It enabled exploration of the strategies for prevention of TB by religious leaders according to the experts who participated in this study.
- The study could not have been carried out with a single design; therefore, this increased the credibility of the results.
- The findings of different approaches enhanced each other. Round one Delphi results were enhanced by round two results and round two results were also enhanced by round three results.
- It aided the integration of the study results with the theoretical frameworks used in this study.

3.6.2 Delphi technique

Delphi technique also known as Delphi procedure is a method used to arrive at a group consensus through surveying a group of experts (Soliman & Khaton 2018:49). It is characterised by building consensus with a series of questionnaires which is a distinctive attribute of Delphi procedure (Hsu and Sandford 2012:175). These rounds of inquiry denote a series of feedback processes which enables researchers to gather more information about the area of concern during the data collection period as well as allowing participants the opportunities to see the input of other panel of expert members and to subsequently re-assess their responses to the problem under investigation.

Advantages of the Delphi procedure includes the ability to ensure subject anonymity which helps to counteract the drawbacks that can often affect face-to-face interactions embedded within group data collection processes (Hsu & Sandford 2012:175). Subject anonymity can effectively reduce the influences of dominant individuals which is normally a problem with focus group discussions. Here the selected subjects can be in different geographic areas and may not know who else is invited to participate in the study. Benefits of Delphi are also a reduction of noise which might arise in a focus group and derail the purpose of the study. Furthermore, the controlled feedback process allows the researcher to provide a structured summary of the previous round of data collection for the purpose of having subjects re-assess their and other experts' prior responses to produce more, and hopefully clearer, insights associated with the topic under investigation. The Delphi procedure utilises the statistical analysis techniques to reduce the group pressure for conformity. The tools for statistical analysis allow the researcher to provide updated data and justified information to the research subjects. As a result, each subject would have no pressure, either perceived or real, to conform to others' responses as the data can be reported in aggregate or as a summary and can speak for itself rather than being considered anecdotal or opinion based.

However, the Delphi has been criticised for lack of universal guidelines due to its approach that fails to virtually meet every major area of professional standards relating to design administration, application, and validation (Keeney, Hasson, & McKenna 2011:20). There are no guidelines as to the recommended sample size in relation to the target population. In

addition to the criticism, lack of anonymity is not really assured because even though the group experts do not know each other, they are known to the researcher who can link the answers to each of them. Nonetheless, a Delphi procedure was used to develop strategies for prevention of TB by religious leaders in Khomas Region, Namibia. Since a mixed method approach was used in this Delphi Technique, qualitative and quantitative designs are discussed and contextualised below.

3.6.2.1 Qualitative design

Round one of the Delphi used a qualitative design. Qualitative research design is a research design used to study human behaviour, habits, and experiences (Creswell 2017: 115). It is a subjective approach in understanding human behaviour and the rationale behind such behaviour. In qualitative research design, the researchers are subjectively immersed in the subject matter and are regarded as the primary data collection instrument. Furthermore, qualitative research designs depend on data saturation as compared to quantitative research designs that heavily rely on sample size.

It is important to highlight some of the disadvantages of the qualitative research designs. Data collected cannot be analysed statistically which is a more comprehensive way in quantitative designs. Only thematic analysis is allowed here. Critical planning is required to prevent failure and ensure accuracy in results to be obtained (Creswell 2017: 116). This design directed the development of the strategies to enhance participation in the prevention of TB by religious leaders in Namibia.

3.6.2.2 Quantitative design

Quantitative research design was comprehensively described under Phase one of this study. However, Bowling (2014: 214) indicated that quantitative research design is important to adopt when dealing with quantities and relationships between variables. It is most appropriate where there is pre-existing knowledge of the subject under investigation to permit the use of standardized data collection tools. Round two and round three of this study used

quantitative design because the standardized data collection tools were developed from the pre-existing knowledge from round one.

3.6.2.2.1 Explorative research

Explorative design focuses on areas which have not been previously studied and attempts to identify new knowledge, new insights, new meaning to explore factors related to the research (Polit & Beck 2017: 206). In this study, the researcher explored the strategies for TB prevention by religious leaders.

3.6.2.2.2 Descriptive research

In descriptive research, a population, situation or a phenomenon under study is being described. The characteristics of the population, situation or phenomenon under study is described at a single point or over a specific period (Houser 2015: 258). In this Phase of the study, the researcher described the socio-demographic characteristics of the participants and strategies to enhance participation in the prevention of TB by religious leaders.

3.6.2.2.3 Contextual research

Contextual designs focus on a specified area or specific group of people (Polit & Beck 2017: 206). This study focused on religious leaders and congregants in Khomas Region, Namibia only. Therefore, the parameters of the study were well defined in terms of the population and setting.

3.7 RESEARCH METHODS FOR PHASE TWO

Research methods were described comprehensively above. The methods used for Phase two of this study are described underneath.

3.7.1 Research Population for Phase two

The participants of this Phase were experts in TB and experts in religion. The accessible population for this study was religious leaders from Christianity and Islam and their congregants.

3.7.2 Sampling for Phase two

This Phase followed non-probability sampling as defined above. Purposive and consecutive sampling techniques were used to select participants of this study Phase. Phase two sampling methods are discussed below.

3.7.2.1 Purposive sampling technique

Purposive sampling was used to select 100 participants for this study. Purposive sampling is also referred to as a judgmental sampling method. The selection of the study participants is based on the researcher's knowledge of the participants on their representativeness of the study phenomena (Brink et al 2018:126). Therefore, this method aided the selection of the congregants with expertise in TB as well as those with expertise in religion.

3.7.2.2 Consecutive sampling technique

This sampling technique was described under Phase one above. However, on Phase two, consecutive sampling was used to recruit all the executive members of religious organisations based on the expertise they have on their religion and exposure to TB training. This is the group of religious leaders who represent their religious organisations at the Ministry of Health and Social Services (MoHSS) although the Islamic religious leaders claimed that they are never invited for stakeholder meetings by MoHSS.

3.7.2.2.1 Inclusion criteria

- Congregants who have formal education on TB.

- Religious leaders appointed as executive members of the religious organisations in Khomas Region, Namibia who attended any form of training on TB.

3.7.2.2.2 Exclusion criteria

- Congregants and executive members of religious organisations under the age of 18 years.
- Congregants and executive members of religious organisations who did not give consent to participate in this study.

3.7.3 Sample size for Phase two

As indicated above, Phase two was a sequential mixed method Delphi procedure. Therefore, the sample size for this Phase was a puzzle due to its complexity to comprehend. In qualitative research, the sample size is determined by data saturation. Data saturation refers to the point of data collection whereby there is no longer new data emerging (Brink et al, 2018: 126). However, the sample size for this part of the study was 100 experts selected for the Delphi technique. According to Skulmoski, Hartman and Krahn (2007: 4), many participants up to hundreds may be used in Delphi technique if the affected group under study is big. Since the qualitative part of the Delphi was round one, this study did not relate data saturation to the sample size but to the number of strategies developed after content analysis of the data collected on round one. Therefore, data saturation was reached at 43 strategies on round one whereby no new strategies were listed by the participants.

3.7.4 Data collection for Phase two

Data collection was done using semi structured and structured questionnaires (Annexure M, N, O). After obtaining all the gatekeeper permissions, the researcher started data collection. The managers of religious organisations from the head offices provided the researcher with a list of their management members with contact details. All the questionnaires were entered on google forms and emailed to the participants to complete. The google forms had three sections. The first section had information to the participants about the study and the next section was the informed consent, this section was compulsory to complete before

continuing to the next section which was the questionnaire. This enabled the researcher to only collect data from the participants who volunteered to be included in the study. This was a very lengthy procedure which was started in March 2020 up to October 2020. The researcher contacted the participants telephonically and on email to get their consent before emailing the questionnaire on round one. Furthermore, the researcher explained to the participants that data collection will be in three rounds and they are requested to participate in all the three rounds of the study although they may withdraw from the study at any time without facing any penalties.

3.7.4.1 Data collection tools for Phase two

Questionnaires were used for data collection in this part of the study (Annexure M, N, O). The first round semi structured questionnaire was developed with reference to the study objectives only. This questionnaire captured the socio demographic characteristics of the participants such as the age, gender, highest level of education, marital status, religion, religious position, training on TB and strategies to prevent TB. Thereafter, round two questionnaires were developed from the strategies developed on Phase one and round one. Round three questionnaires had similar strategies as round two questionnaires, but it tested the level of agreeability of the participants with the strategies developed from round two of the study.

3.7.5 Data management and analysis for Phase two

As indicated above, data was collected using google forms. As the participants were completing the google forms, the responses were automatically recorded in the forms. After data collection, the researcher downloaded all the responses to Microsoft excel. The data was cleaned for completeness and then analysed as follows:

3.7.5.1 Round one

After data cleaning, content data analysis was done. Content analysis refers to the analysis of the content of narrative data to identify prominent themes and patterns among the themes

(Polit & Beck 2018:537). The researcher read through the responses provided by the participants to understand the meaning and the content, this involved full immersion in the data. Thereafter, codes were developed according to the data. Then themes were developed which represented 43 strategies for TB prevention as suggested by the participants.

3.7.5.2 Round two

After data collection, the data was entered in Microsoft Excel. Data cleaning was done and then exported to Moon Stats 2018 version 2.0 software package for analysis. Descriptive statistics were applied. Data was presented in a table format.

3.7.5.2 Round three

The data was entered in Microsoft Excel and then exported to Moon Stats 2018 version 2.0 software package for analysis. Descriptive statistics were applied. The data was presented in a table.

3.8 DATA QUALITY FOR PHASE TWO

In this Phase of the study, data quality was ensured by trustworthiness as well as validity and reliability as described below.

3.8.1 Trustworthiness measures (Round one Delphi technique)

3.8.1.1 Credibility

This refers to the confidence in the truth and interpretation of the data (Polit & Beck 2017: 559). Therefore, to ensure credibility, the researcher was the only one responsible for data collection to prevent any falsification of data. Furthermore, the researcher adhered to scientific integrity measures during the study.

3.8.1.2 Dependability

This refers to the stability of the data or reliability of the data over a period and conditions (Polit & Beck 2017: 559). To ensure dependability, the data collection tools were pre-tested before the actual data collection. Thereafter, corrections were made to clear ambiguities.

3.8.1.3 Confirmability

This deals with establishing that the data presented by the researcher is indeed provided by the participants not invented by the researcher (Polit & Beck 2017: 560). To ensure confirmability, the researcher has a trail of the data collected, should the examiners require the data, or should there be any concerns on the confirmability of the results.

3.8.1.4 Transferability

Polit and Beck (2017: 560) describe transferability as the extent to which findings can be transferred in other settings or groups. To ensure transferability, the researcher invested time in data collection so that comprehensive data can be collected. The participants were given sufficient time to provide accurate responses.

3.9 Validity and reliability

3.9.1 Validity (Round two and 3 Delphi technique)

Validity was defined above. The researcher ensured validity on Phase two of this study by employing content validity and face validity of the instrument as discussed below.

3.9.1.1 Content validity

The data collection tools were compiled with reference to literature. Furthermore, the data collection tools were assessed by the research supervisors to ensure alignment with the study objectives. Finally, content validity was also ensured by validating the results of the study by experts in the field of TB to ensure that the content is valid and appropriate.

3.9.1.2 Face validity

The data collection tools were assessed by the statistician to ensure that appropriateness of data to be collected as well as to ensure that the data will be fit for analysis.

3.9.2 Reliability of research

To ensure reliability of this study results, the researcher kept an audit trail of all the raw and processed data. This study also followed methods recommended by other similar studies.

3.10 Validation of the strategies

The strategies were sent to a group of 10 experts for validation and the final strategies were compiled with their input. The strategies were compiled on google forms and emailed to the experts and they were requested to indicate whether they agree with the strategies or not and provide comments. Google forms have automated feedback as the forms are being completed.

3.11 Ethical considerations

3.11.1 Protection of the rights of the institutions

The researcher got approval from the Department of Health Studies Research Ethics Committee of the University of South Africa to conduct this study. The study was also approved by Namibia Ministry of Health and Social Services Research Committee. The third approval was granted by the Council of Churches in Namibia and the Islamic Centre.

3.11.2 Protecting the rights of the participants

3.11.2.1 Informed consent

The participants should choose to participate in a study voluntarily and must be protected from harm. For the participants to make an informed consent they should be given all the

necessary information about the study, its benefits and weakness in their participation (Brink et al 2018:31). Therefore, the researcher provided information about the study to the participants before they could volunteer to participate (Annexure J & K). Those who did not give consent did not take part in the study.

3.11.2.2 Principle of respect for persons

Individuals are referred to as autonomous beings. This means that everyone has the right to self-determination and this right must be respected by the researchers (Brink et al 2018: 29). The researcher adhered to this ethical principle by giving the participants the liberty to choose whether they will participate in the study or not. There was no form of prejudice or penalty to those who chose not to participate in this study. Those who chose to participate in the study were not coerced to participate in the study until its completion, they were allowed to quit at any point without any form of punishment.

3.11.2.3 Principle of beneficence and non-maleficence

This principle requires the researcher to cause no harm to participants and protect them from harm (Polit & Beck 2017: 139). The researcher ensured that the participants were not exposed to any form of harm during data collection. The researcher adhered to the Covid-19 regulations meticulously. After the pandemic breakdown, the questionnaire was entered on google forms to minimize the risk of Covid-19 transmission on paper-based data.

3.11.2.4 Principle of confidentiality and anonymity

Confidentiality means that the information provided by the participants will not be publicly published with the participants' identities or it will not be shared with anyone who is not authorized to have access to it (Polit & Beck 2017: 147). In this study, participants' names were not required on the questionnaire to prevent any link on the data and the participants' names. Primary data was only accessible to the researcher and the research supervisors.

3.11.2.5 Principle of justice

Brink et al (2018: 30) defined the principle of justice as fair selection and treatment of the participants. The researcher selected the participants based on the study needs. No personal biases influenced the selection of the participants of this study.

3.11.3 Scientific integrity

According to Brink et al (2018: 36), apart from respecting the rights of the participants, the researchers have the responsibility to respect scientific knowledge in their contribution to the body of knowledge. To uphold scientific integrity, the researcher executed the following:

- The researcher did not fabricate any information in this study. The results presented are a true reflection of the data collected.
- The research design and methods were followed as described and contextualized in this study.
- All the data which was collected was used as ordered by this study objectives, there were no researcher biases applied in this study.
- All the sources used in this study were acknowledged to prevent plagiarism.

3.10 CONCLUSION

This Chapter described the research design, methodology, data quality, as well as ethical considerations. The next chapter discusses data analysis and data presentation.

CHAPTER FOUR

ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

PHASE ONE

4.1 INTRODUCTION

The previous chapter discussed the research design and methods used to conduct this study. This chapter describes data analysis techniques thereafter, the study findings are presented, described, and discussed.

4.2 DATA MANAGEMENT AND ANALYSIS

The objectives of this study were to:

1. Determine the knowledge and attitudes of religious leaders and congregants regarding TB in Khomas Region, Namibia.
2. Describe practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia.
3. Develop strategies to enhance prevention of TB by religious leaders which ultimately influence prevention of TB in the societies and the communities of Khomas Region, Namibia.

Data was collected using a questionnaire. Some questionnaires were paper based while the other questionnaires were entered on google forms and emailed to the participants to complete them. All the data was kept on a password folder and paper-based data was kept in a lockable safe. After data collection, data cleaning was done whereby the questionnaires were assessed for completeness and to eliminate any possible errors. All the collected data was entered on Microsoft excel 2019 and analysed using Moon Stats 2018 version 2.0. Descriptive statistics were applied in terms of frequencies and percentages. The unstructured data was analysed using quantitative content data analysis method. Results were presented in tables and figures.

4.3 RESEARCH RESULTS AND DISCUSSION OF FINDINGS

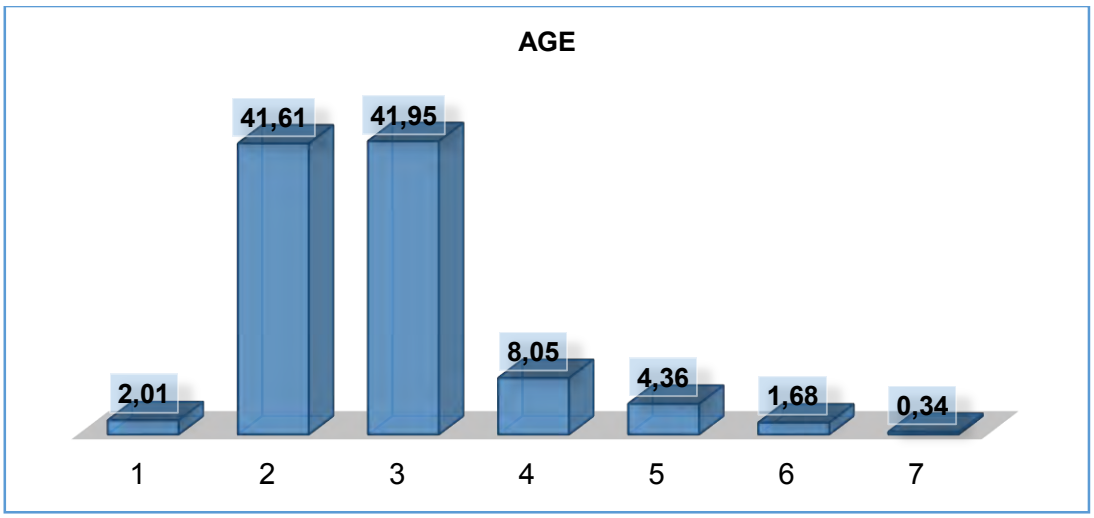
In this Phase, data was collected using a questionnaire. Knowledge and attitudes of the religious leaders and the congregants on TB and their practices on TB prevention were investigated. This study results cannot be generalised; however, they will be transferred to the whole Khomas Region, Namibia. The results are presented and discussed below.

4.3.1 Sample Characteristics

This Phase of the study captured socio-demographic characteristics such age, gender, highest level of education, marital status, religion, religious position and training on TB of the participants. A total number of 299 participants took part in this study. The results are presented below.

4.3.1.1 Age of the participants

The participants of this study were mainly young adults and adolescents among the ages of 20-29 years with 124 (41.61%) participants and 30-39 years with 125 (41.95%) participants respectively. There was only 1 (0.34%) participant in the age range of 70-79 years. The age distribution of this study participants is displayed on *Figure 4.1* below.



Key:

1: <20
2: 20 – 29
3: 30 – 39
4: 40 – 49
5: 50 – 59
6: 60 – 69
7: 70 – 7

Figure 4.1 Participants' age (n=299)

The age of the participants helps one to understand the credibility and rationality of the study findings (Życzyńska-Ciołek & Kołczyńska 2020: 2). This study drives the notion of assurance and quality of responses based on the age of respondents who dominated in this study. The age ranges of (20 – 29 and 30 – 39 years) of the participants encompassed most of the participants in this study giving this study more credibility as the respondents falling in those categories could possibly encompass a more energetic type of generation which could have great ability in contextualizing questions making it easy to find valuable results for this study.

4.3.1.2 Gender of the participants

The study attracted more females than males. Females were on the lead with 191 (63.88%) participants against males who were 108 (36.12%). Results are presented in *Figure 4.2* below.

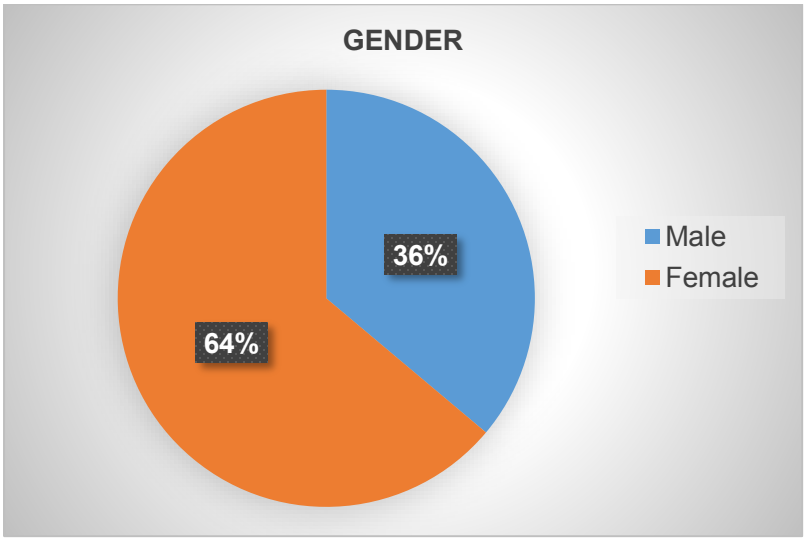


Figure 4.2 Participants' gender (n=299)

This study results have indicated that most of the participants were females. This could mean that the majority of the population in the Khomas Region who identify with religion are females, not necessarily that females had a better knowledge of TB than men. Literature captured a TB KAP study done in the Republic of South Africa by Naidoo, Simbayi, Labadarios, Ntsepe, Bikitsha, Khan, Sewpaul, Moyo and Rehle (2016:6) that found that the predictors of TB knowledge were race, sex, completion of high school, being employed and having a diagnosis of the disease in ones' lifetime. Participants with these predictors had good knowledge of TB as supported by Hassan et al., (2017:5) in Nigeria. As a result, the current study utilised the gender of participants to analyse the findings.

4.3.1.3 Highest level of Education of the participants

This study attracted more educated participants although the opportunity to participate was presented to all who could read and write English. Those with tertiary education were 261 (87.58%) with the lowest figures seen in primary education and no formal education with a tie of 2 (0.67%) participants each respectively. Only 1 participant did not indicate their highest level of education. *Figure 4.3* below furnishes the participants highest level of education.

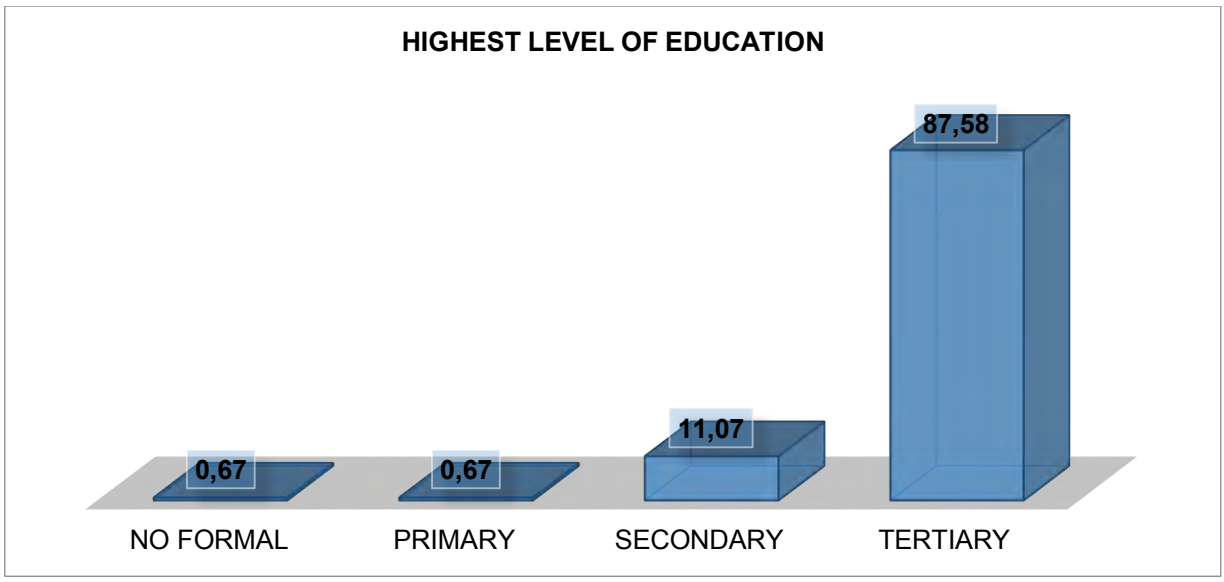


Figure 4.3 Participants' highest level of education (n=298)

As it is noted in the study findings, most of the participants were educated with a good number having formal education, which enabled them to understand the subject matter under investigation and influenced the participants KAP on TB. Similar results were found in a TB KAP study done in Nigeria by Hassan, Olukolade, Ogbuji, Afolabi, Okwuonye, Kusimo, Osho, Osinowo and Ladipo (2017:5) which found that there is a strong relationship between level of education and knowledge of TB as the highly qualified participants knew the causes and symptoms of TB.

4.3.1.4 Marital status of the participants

On marital status, 192 (64.65%) participants were single while 91 (30.64%) were married with a mere 14 (4.72%) that shared equally among the divorced and cohabiting participants while 2 participants did not answer this question. The results are presented in *Figure 4.4* below.

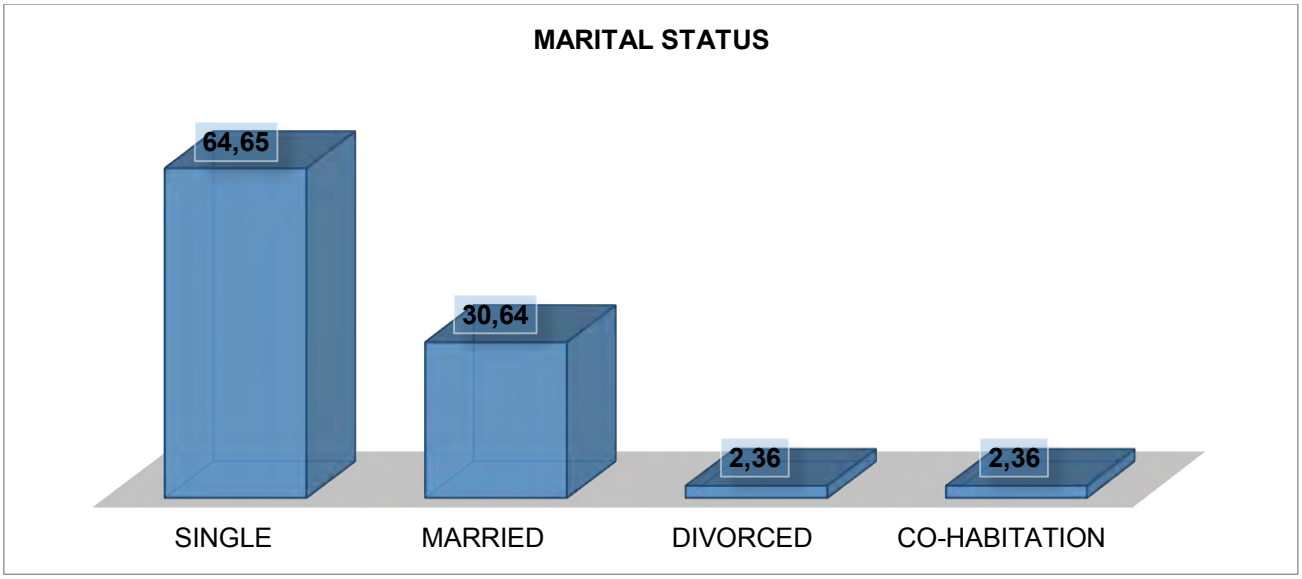


Figure 4.4 Participants' marital status (n=297)

Most of the participants were single. However, the validity of the results was not defined by the marital status rather it was mainly concerned with the KAP of TB.

4.3.1.5 Religion of the participants

Christianity had 261 (87.29%) participants while Moslems were 34 (11.37%) and 4 (1.34%) of the participants indicated that they do not follow any religion. The results on participants' religion are on *Figure 4.5* below.

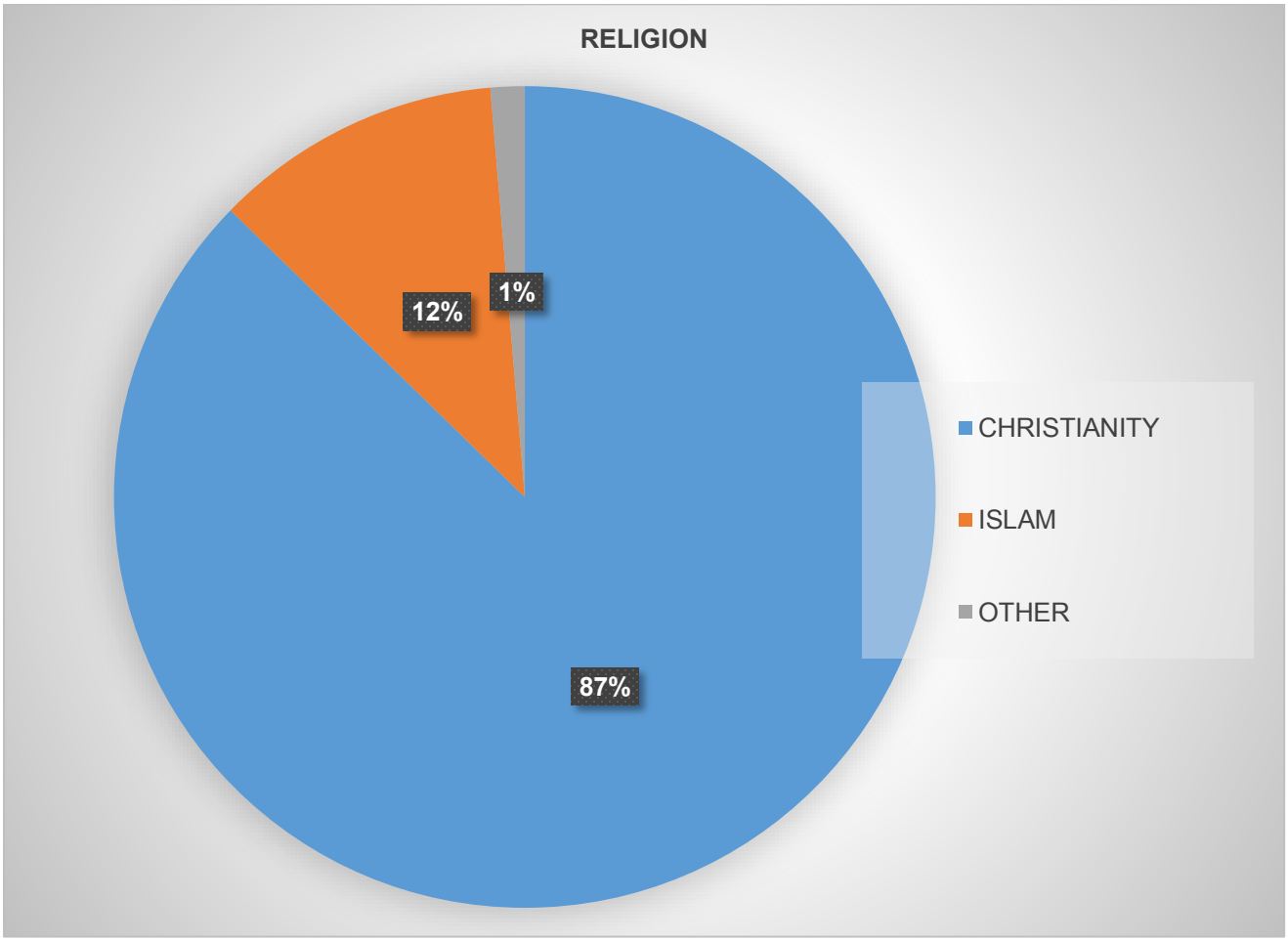


Figure 4.5 Participants' religion (n=299)

Most of the respondents who participated in this study were from a Christian background whilst the small population was from Islam. Therefore, it can be concluded that the responses from this study have been dominated with a Christian perspective due to the population structure of Namibia region being 97% of the participants being Christians while 3% is other religions (MoHSS 2017: 28). However, this did not affect the interpretation of the results.

4.3.1.6 Religious position of the participants

In this study 33 (11.04%) of the participants were religious leaders while the majority 266 (88.96%) were congregants. Majority of these study participants were religious congregants. This could be viewed as a natural set up because there are more congregants than religious leaders in a natural setup. The congregants were key in this study to ascertain that the strategies developed are relevant for them. An interesting study by Gichuru et al (2018:294)

which studied Kenyan communities found that religious leaders are important gatekeepers in matters of health and public morality. Furthermore, religious leaders have the capacity to gradually apply more humanistic, caring discourse, indicating that one can interrupt the cycle of socialization and stand up for change (Harro 2000: 2). Therefore, this study employed religious leaders to capture their knowledge, attitude and practices of TB given the influence they have in the communities.

4.3.1.7 Training on TB

This study found that 110 (38.76%) of the participants had a training on TB while the majority 174 (61.27%) had never received any form of training on TB. It can be inferred from the study results that there is a need for excessive training on TB as there has been poor training or limited training on TB within the scope of religious spectrum. The results signify a possibility of poor engagement and weak initiative by religious leaders in leading the training on the prevention of TB among the congregants. A study by Manurung et al, (2020:428) on the knowledge and practices of informal religious leaders (IRL) in referring Tuberculosis suspects to the public health centres found that there was a significant increase between the knowledge score and skills before and after training of the religious leaders. Therefore, there might be a need to train all the religious leaders on TB. Therefore, it can be concluded that the training on TB had a significant effect on increasing IRL knowledge and skills on TB. It can be simultaneously concluded that TB training is effective in improving the knowledge about TB prevention. It is against this backdrop that this study assumes that there is weak participation of religious leaders in equipping knowledge regarding TB to their congregants. However, religious atrocity, indoctrination and religious ethnocentrism of the religious leaders may contribute to less interest and commitment in acquiring enough knowledge and causes and prevention and treatment of TB.

4.4 KNOWLEDGE OF TB

This study referred to 49% and below knowledge as poor while 50-74% as fair and 75-100% as good knowledge of TB.

4.4.1 Participants knowledge of the causes and treatment of TB

The participants were presented with questions to test their knowledge on the causes of TB, mode of transmission and treatment. The results are presented in *Table 4.1* below.

TABLE 4.1 PARTICIPANTS KNOWLEDGE OF THE CAUSES AND TREATMENT OF TB (N=299)

Variables	Frequency (n)	Percentage (%)	Cumulative percentage (%)
What causes TB?			
Bad luck/curse	1	0.34	0.34
Bacteria (germs)	241	80.87	81.21
Demons	0	0	0
Cold wind	1	0.34	81.54
Smoking	44	14.77	96.31
Malnutrition	2	0.67	96.98
I do not know	9	3.02	100.00
Missing cases	1		
How can a person get infected with TB?			
Through handshake	0	0	0
Through the air when the infected person coughs or sneezes	292	97.99	97.99
Through sharing food with a person infected with TB	0	0	0
Through sharing clothes with a person infected with TB	0	0	0
I do not know	6	2.01	100.00
Missing cases	1		
What is the best treatment for TB?			
Herbal Remedies	15	5.05	5.05
Home Remedies	2	0.67	5.72
Praying /holy water	2	0.67	6.40
Modern medicine	271	91.25	97.64
I do not know	7	2.36	100
Missing cases	2		
What are the dangers of stopping TB treatment before course completion?			
Death	49	16.50	16.50
Re-infection	49	16.50	33.00

Inability to cure infection	28	9.43	42.42
Drug resistance	164	55.22	97.64
Don't know	7	2.36	100
Missing cases	2		

This study found that 241 (80.87%) of the participants chose bacteria (germs) as the cause of TB followed by 44 (14.77%) who chose smoking as the cause of TB. On the question of how one can be infected with TB, 292 (97.99%) participants chose that one will be infected through the air when a person infected with TB coughs or sneezes while only 6 (2.01%) did not know how one can be infected with TB. In response to the best treatment for TB, 271 (91.25%) participants chose modern medicine followed by 15 (5.05%) who chose herbal remedies, and the rest chose home remedies and 2 who chose praying/ holy water (0.67%) each respectively. A total number of 164 (55.22%) participants indicated drug resistance as the danger of stopping TB treatment followed by death and re-infection with 49 (16.50%), each respectively.

It can be inferred from the findings that, 241 (80.87%) which is most of the respondents were having a good knowledge of the causes and transmission of TB despite their religious differences. However, the study findings strike different from that of Adane et al (2017: 7) done among Ethiopian prisoners which found that knowledge of prisoners regarding the cause of TB and consequences of non-adherence to TB treatment was low. The high level of the knowledge of TB in this study could be attributed by the fact that the participants of this study could all read and write therefore, although some had never had training on TB, they could have learned about TB on different platforms like press and social media.

The results from this study pointed out that the majority (91.25%) of the study participants supported a modern clinical way of treating TB despite their religious affiliations and commitments. This is similar though not identical to Adane et al (2017) as they postulate that knowledge on the transmission, symptoms, and prevention was high in his study. However, the study by Adane et al (2017: 7) showed a low percentage of respondents with a traditional and spiritual effort to treat TB, there is still a need to crop out of people with the knowledge of spiritual treatment through proper training on TB which could consequently strengthen the

TB prevention program. More so, this study results shows a great cumulative percentage of respondents agreeing to the fact that drug resistance has the danger of stopping TB treatment followed by death and re-infection.

These study findings were contrary to a study by Hassan, Olukolade, Ogbuji, Afolabi, Okwuonye, Kusimo, Osho, Osinowo, and Ladipo (2017:5) done in Nigeria among community members which found that majority of the community members had heard about TB prior to the study, however they did not know the causes and the symptoms of TB. However, the current study pointed to good knowledge of TB regarding the causes and implication of not taking the correct treatment. Furthermore, the findings from this study show that respondents were having plutonic knowledge on causes and prevention as well as treatment of TB. Therefore, this suggests that the level of education and knowledge of this study participants regarding TB has been positively high. This study also found a strong relationship between level of education and knowledge of TB as the highly qualified participants knew the causes and symptoms of TB. This is also supported by a study of Hassan et al (2017:6) that level of education has a positive correlation on the knowledge and awareness of TB.

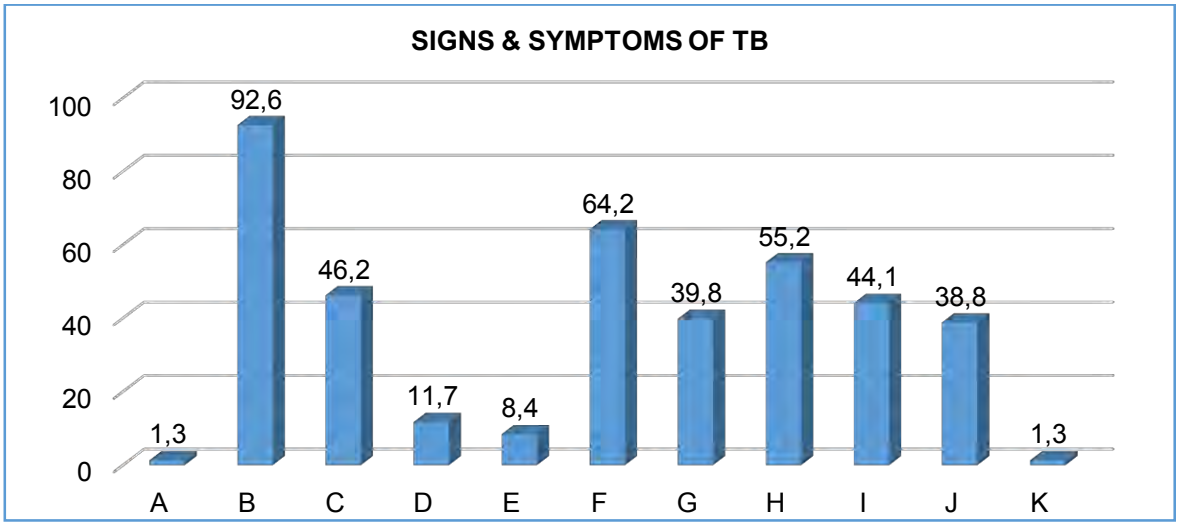
Based on the participants selected in this study, it can be inferred that the population of Khomas Region, Namibia has a significantly good knowledge of TB. This was evidenced by the level of awareness of participants on the causes, mode of transmission and treatment related information. However, this does not conform to a recent study in Botswana were a TB KAP study was conducted in eight different communities by (Musuka et al., 2018: 3) which found that, respondents were attributing TB with having sex with a woman who had miscarriage, food poisoning or sleeping with a widow among few of the participants whereas majority had good knowledge of TB. These results can be likened to (Howley, Katz and Colson (2016:5) on similar subjects as reflected above. However, this current study shows a better and positive knowledge of the participants on the knowledge and awareness of TB.

The findings in this current study show that the majority of the respondents were supporting a modern treatment of TB despite their religious differences. Therefore, this shows that a lot of the participants were in support of their religious doctrine as they acclaimed the fact that their religion supports modern treatment of TB. The study findings are in support with that of

Gichuru et al, (2018:294) that in other African countries like Kenyan communities, religious leaders are important gatekeepers in matters of health and public morality. The findings from this study also confirm with that of Gichuru et al (2018: 302) in that, most religious leaders who were selected in this study were in support of the modern prevention and treatment of TB and that it is their responsibility to educate the congregants on the prevention and treatment of TB.

4.4.2 Participants knowledge of the signs and symptoms of TB

In this section, this study also investigated the participants' knowledge of the signs and symptoms of TB. Majority of the participants 277 (92.60%) chose cough that last longer than 3 weeks as a sign of TB, 192 (64.20%) chose weight loss, 165 (55.20%) chest pain, 138 (46.20%) coughing up blood, 132 (44.10%) shortness of breath, 119 (39.80%) fever without clear cause that lasts more than 7 days while 116 (38.80%) chose ongoing fatigue. The results are shown in *Figure 4.6* below.



KEY:

A	B	C	D	E	F	G	H	I	J	K
Rash	Cough longer than 3 weeks	Cough blood	Severe headache	Nausea	Weight loss	Fever more than 7 days	Chest Pain	Shortness of breath	Ongoing Fatigue	Don't know

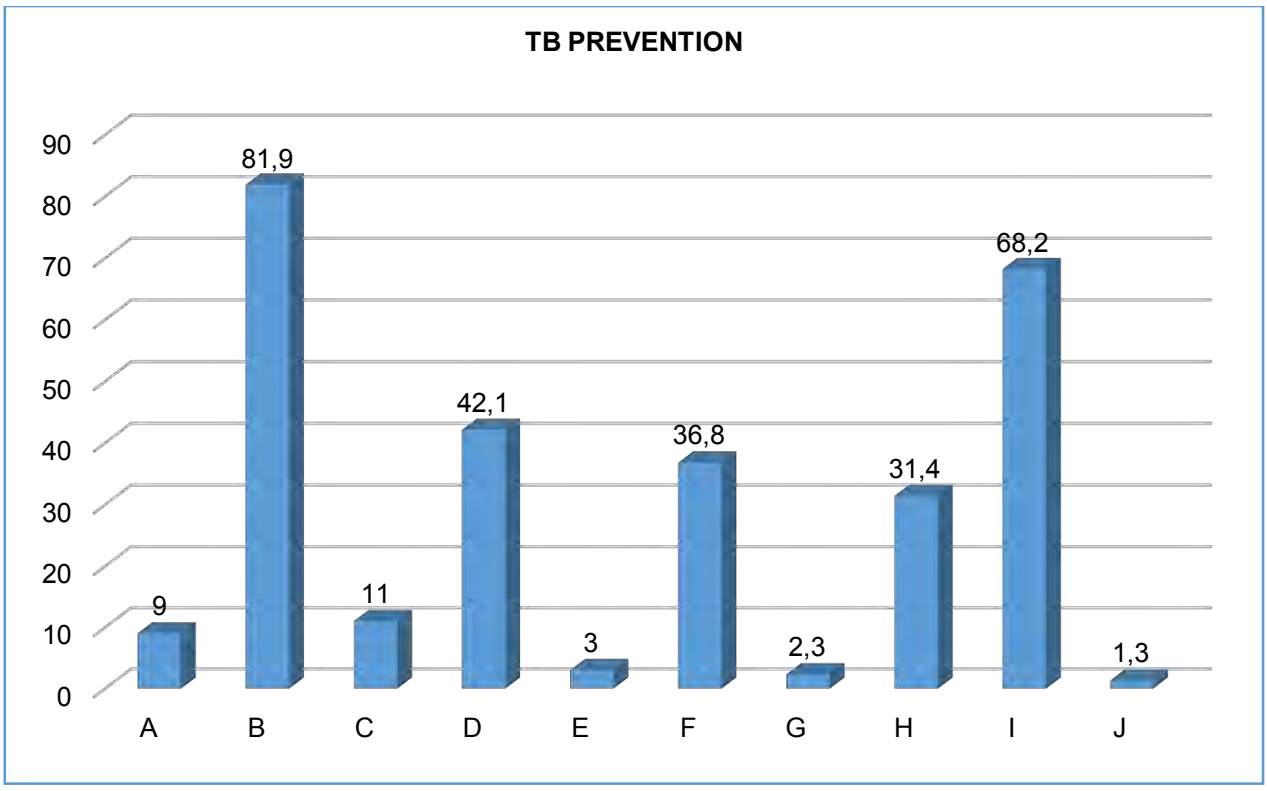
Figure 4.6 Participants knowledge of the signs and symptoms of TB (n=299)

Majority of the respondents in this study showed good knowledge on the signs and symptoms of TB. It can be inferred from the findings that, in the Khomas region, Namibia, people are aware and have best knowledge on TB signs and symptoms despite their religious knowledge and affiliations. Kamenye et al (2016) captured that ineffective health education had contributed to the poor knowledge of patients in their study. However, the findings from this study depicted an opposite reflection as compared to that of Kamenye et al (2016) as the participants showed good knowledge on the signs and symptoms of TB.

Based on this study results, Khomas Region, Namibia is in a better position in terms of its awareness on TB as compared to a study by Siregar and Hasan (2020:75) which found that most of their study respondents had poor knowledge of TB signs and symptoms. However, this study revealed a clear and plutonic knowledge on the signs and symptoms of TB among the study participants which is the fulcrum knowledge to the prevention of TB. In as much as the participants in this study were not patients and had good knowledge on the signs and symptoms of TB, Gichuru et al, (2018;294) concretised these findings concluding that the patients with TB knowledge, beliefs, and practices regarding tuberculosis are important for the improvement of public health education on tuberculosis.

4.4.3 Participants knowledge of the prevention of TB

The participants of this study were also given questions to assess their knowledge on the prevention of TB. The participants were requested to tick the options which are correct to the best of their knowledge. In response to prevention of TB, covering of mouth and nose when coughing or sneezing was leading with 245 (81.90%) participants choosing this practice, 204 (68.20%) chose isolating patients with TB, 126 (42.10%) chose washing hands after touching items in public and the least 7 (2.30%) chose prayer for TB prevention. The results are projected on *figure 4.7* below.



KEY:

A	B	C	D	E	F	G	H	I	J
Avoid shaking hands	Covering mouth and nose when coughing or sneezing	Avoid sharing dishes	Wash hands after touching items in public places	Closing windows at home	Good nutrition	By Praying	By vaccination	By isolating patients with TB	I don't know

Figure 4.7 Participants responses on prevention of TB (n=299)

As reflected in Figure 4.7 above, the results from the study show that most of the respondents were having a better and excellent knowledge of TB prevention. There is a possibility that religious leaders were educating the congregants or despite the religious affiliations, respondents got awareness using media and any other means. These results are slightly similar to a TB KAP study done in Malaysia by Mohd Salleh et al., (2018:302) which found that the participants' practices towards TB prevention were moderate. In the same vein, this study found that a very few participants had positive TB prevention strategies like wearing a mask in public if they would be diagnosed with TB which is similar to the findings of Mohid Salleh et al., (2018:303) whereby the participants study indicated that they would

immediately go to the hospital if they experience TB signs and symptoms to prevent the possibility of spreading the infection. Similar results emerged in Saudi Arabia whereby Aseeri, Turkestani and Alamri (2018:2423) and in China by Zhang et al., (2016:1344) where participants exhibited good TB prevention measures. If this can be consistent in the rest of the world and Namibia, the WHO End TB Strategy can be a reality.

While supporting this study results on the good knowledge of TB prevention among the participants', a study in Africa (Ethiopia) found that the participants had good knowledge on the practices of TB prevention such as opening of windows to ensure good ventilation if they are to contract TB (Kasa, Minibel & Bantie 2019:3).

4.5 ATTITUDE OF THE PARTICIPANTS TOWARDS TB

This section investigated the participants' attitude to TB. The participants were asked to indicate the level they agree with the statements provided on a Likert scale as presented in Table 4.2.

TABLE 4.2 ATTITUDE OF THE PARTICIPANTS TOWARDS TB (N=299)

Variables	Strongly Agree n (%)	Agree n (%)	Not sure n (%)	Disagree n (%)	Strongly Disagree n (%)	Missing cases n (%)
Anyone can get TB	227 (76.95)	65 (22.03)	1 (0.34)	2 (0.68)	0	4
TB is a serious issue in our religion	55 (18.77)	74 (25.26)	94 (32.08)	54 (18.43)	16 (5.46)	6
I am afraid of a person infected with TB because they might infect me	70 (23.97)	113 (38.70)	29 (9.93)	70 (23.97)	10 (3.42)	7
It surprises me when someone has TB	11 (3.74)	22 (7.48)	54 (18.37)	141 (47.96)	66 (22.45)	5
I feel sad when someone has TB	80 (27.59)	128 (44.14)	32 (11.03)	42 (14.48)	8 (2.76)	9

I feel compassion for people with TB	120 (40.96)	140 (47.78)	18 (6.14)	12 (4.10)	3 (1)	6
I feel compassion for people with TB, but I stay away from them	50 (17.06)	88 (30.03)	47 (16.04)	82 (27.99)	26 (8.87)	6
I am ashamed of a person with TB	6 (2.05)	13 (4.45)	54 (18.49)	125 (42.81)	94 (32.19)	7
It makes me sad and hopeless to see a person with TB	35 (12.07)	58 (20.00)	52 (17.93)	97 (33.45)	48 (16.55)	9
I have no feelings towards a person with TB	9 (3.06)	27 (9.18)	65 (22.11)	116 (39.46)	77 (26.19)	5
I have a desire to help someone with TB	154 (52.20)	98 (33.22)	26 (8.18)	13 (4.41)	4 (1.36)	4
I reject people with TB	7 (2.27)	3 (1.02)	56 (18.98)	113 (38.31)	116 (39.32)	4
I support people with TB	141 (47.64)	114 (38.51)	28 (9.46)	10 (3.38)	3 (1.01)	3
It is an individual problem to get TB	18 (6.10)	26 (8.81)	70 (23.73)	100 (33.73)	81 (27.46)	4

Majority of the participants 227 (76.65%) strongly agreed that anyone can get TB as compared to only 2 (0.68%) participants who disagreed with this statement as indicated in Table 4.2. A total of 74 (25.26%) participants agreed that TB is a serious disease in their religion with 55 (18.77%) of the participants agreeing to this statement. However, 164 (55.97%) of the participants chose not to be sure, disagree and strongly disagree with TB as a serious disease in their religion. The results of this study show that 113 (38.70%) of the participants fear a person infected with TB while 10 (3.42%) strongly disagree with being afraid of a person infected with TB. On the question of being surprised by a person with TB, 141 (47.96%) of the participants of this study disagreed with this statement with a mere 11 (3.74) strongly agreeing to the statement. Participants who agreed that they feel sad when someone has TB were 128 (44.14%) while 8 (2.76) strongly disagreed that they feel sad for a person with TB.

The current study found that 140 (47.78%) of the participants agree that they feel compassion for people with TB followed by 120 (40.96%) who strongly agreed to the same statement. A total of 88 (30.03%) participants agreed that they do feel compassion for people with TB, but they stay far from them whereas 82 (27.99%) of the participants disagreed with this statement.

The participants were asked to rate the level of shame they have over a person with TB and 125 (42.81%) of the participants disagreed that they are ashamed of such a person followed by 94 (32.19%) of the participants who strongly disagreed with the statement. Participants who disagreed that it makes them sad and hopeless to see a person with TB were 97 (33.45%) followed by 58 (20%) who agreed to this statement and 52 (17.93%) who were not sure of their emotions towards a person with TB. In this study, 116 (39.46%) of the participants disagreed to having no feeling towards a person with TB.

The study results show that 154 (52.2%) of the participants strongly agreed that they have the desire to help a person with TB followed by 98 (33.22%) who agreed to the same statement. A total of 116 (39.32%) strongly disagreed with rejecting people with TB whereas 113 (38.31%) disagreed with the same statement. On the other hand, 141 (47.64%) strongly agreed and 114 (38.51%) agreed that they support people with TB. The last question on the attitude of the participants towards TB needed them to rate their view of TB as an individual problem whereby 100 (33.90%) disagreed with this statement and 81 (27.46%) strongly disagreed with this statement.

This study revealed a good attitude towards TB among the participants as most of them answered that TB is a disease that can infect everyone. However, Sima, Belachew & Abebe (2017: 5) conducted a study among the pastoralists that found a negative attitude towards TB patients and a higher perceived stigma among pastoralists. It is concluded that the findings from the current study shows a good attitude towards patients with TB by the participants suggesting the common practice religious doctrines such as love, compassion, *Ubuntu* (oneness and humanity) as practices enshrined within their religious life and teachings.

The findings of this current study are reinforced by that of Berkley Centre (2016: 3) which described the importance and the role of religious leaders in TB prevention and care in Nigeria hence the importance of their attitude towards the disease. Although in this study it was not convincing in the responses if religious leaders were active in TB awareness activities, the solution and framework to educate and make awareness of TB among the congregants lies in the religious doctrines that derive the attitudes of humanity. The community trusts religious leaders; therefore, they can be vital in delivering health education to their congregants. As supported by Berkley Centre (2016: 3) that the Nigerian government officials acknowledge that citizens listen to faith leaders more than government officials. This study also found that most of the participants showed a positive attitude towards people with TB as they confirmed that it is a disease that does not select people based on their religion or race or sex and age.

This study found that most of the participants were not sure of the stance of their religion regarding TB as they were not sure if their religions take TB as a serious disease or not. Despite the nature of the current results, a study by Williams and Leary (2019) shows that religious leaders strive to influence their congregants' attitudes and practices. This therefore suggests that religion is the fundamental basis of faith and attitude, emotions, and physiological functioning of humanity that either suspend rationality or support it (Max Weber cited in Swedberg & Agevall, 2016: 9). The study findings show that, most of the participants were not afraid of the person with TB. The study findings generally show a positive attitude of the participants on patients with TB. The findings show that there is low phobia, high compassion, low stigma and high engagement among the respondents, positive attitude towards patients with TB due to religious affiliation that controls the attitude of participants. Berkley Centre (2016: 3) alluded that to improve attitude towards TB there should be training of faith leaders on appropriate practices and treatment seeking behaviours which could bolster TB campaigns tremendously pioneered by them. Berkley (2016: 3) further narrated that in relation to TB treatment, trained faith community health workers could be instrumental in treatment adherence strengthening because of the trust that the community has on them. Therefore, according to this study findings, it can be inferred that the trust endorsed to faith leaders by the community is consistent with Khomas Region, Namibia which means religious leaders can be a good source of information for TB prevention and care.

The participants of this study were silent on their participation and their religious leaders on the prevention TB activities. However, a study by Berkley Centre (2016:4) ignited that Nigerian faith leaders had a unique characteristic, which is interfaith cooperation which facilitates a better coordination of TB plans. These findings are in support with that of Koh & Coles, (2019:369) and Idler et al., (2019:3) that converge with both studies by Berkley Centre (2015 and 2016) that faith-based organisations are important in TB prevention and care.

4.6 PARTICIPANTS PRACTICES TOWARDS PREVENTION OF TB

This section investigated the participants' practices on prevention of TB. They were asked to indicate the level they agree with the statements provided on a Likert scale. The results are presented in Table 4.3.

TABLE 4.3 PARTICIPANTS' PRACTICES TOWARDS TB PREVENTION

Variables	Strongly Agree n (%)	Agree n (%)	Not sure n (%)	Disagree n (%)	Strongly Disagree n (%)	Missing cases n (%)
If I think I have TB, I will go to a health facility	257 (86.53)	31 (10.44)	5 (1.68)	4 (1.35)	0	2
If I think I have TB, I will go to a traditional healer	3 (1.03)	3 (1.03)	49 (16.84)	111 (38.14)	125 (42.96)	8
If I think I have TB, I will pursue self-treatment options, like herbs	14 (4.75)	11 (3.73)	59 (20.00)	111 (37.63)	100 (33.90)	4
I will motivate a person with TB to take treatment	251 (85.37)	37 (12.59)	1 (0.34)	2 (0.68)	3 (1.02)	5
My religious beliefs encourage the use of modern treatment for TB	180 (61.64)	48 (16.44)	37 (12.67)	20 (6.85)	7 (2.40)	7
I will advise a person on TB treatment to take the treatment consistently until course completion	260 (88.44)	26 (8.84)	3 (1.02)	0	5 (1.70)	5
I will advise a person on TB treatment to stop the	11 (3.75)	8 (2.73)	42 (14.33)	102 (34.81)	130 (44.37)	6

treatment and have faith that the cure comes from God/Allah						
I will advise a person on TB treatment to continue with treatment even if the symptoms have improved	233 (78.98)	36 (12.20)	12 (4.07)	7 (2.37)	7 (2.37)	4
I will encourage a person with TB to cover their mouth when coughing	264 (89.80)	25 (8.50)	1 (0.34)	0	4 (1.36)	5
I will encourage a person with TB to cough freely	263 (89.46)	24 (8.16)	2 (0.68)	1 (0.34)	4 (1.36)	5
I will provide food and nutritional support to a person with TB	202 (68.71)	73 (24.83)	16 (5.44)	2 (0.68)	1 (0.34)	5
I will provide counselling and emotional support	189 (64.51)	85 (29.01)	11 (3.75)	5 (1.71)	3 (1.02)	6
I am involved in TB prevention activities	41 (14.34)	48 (16.78)	65 (22.73)	103 (36.01)	29 (10.14)	13

As demonstrated on Table 4.3 above, this study found that 251 (86.53%) of the participants strongly agreed that they will go to a health facility if they think they have TB followed by 31 (10.44%) who agreed to the same statement. Similarly, 125 (42.96%) of the participants strongly disagreed and 111 (38.14%) of the participants disagreed that they will consult a traditional healer if they think they have TB. On the statement of opting for self-treatment when they think they have TB, 111(37.63%) participants disagreed that they will pursue it followed by 100 (33.90%) who strongly disagreed with the same statement although 14 (4.75%) strongly agreed that they will pursue self-treatment if they think they have TB.

This study results indicated that 251 (85.37%) of the participants strongly agree that they will motivate a person with TB to take treatment while only 3 (1.02%) strongly disagreed with the same statement. The participants were asked whether their religions encouraged the use of modern medications for the treatment of TB and 180 (61.64%) of the participants strongly agreed followed by 48 (16.44%) who agreed with the statement but at least 7 (2.40%) strongly disagreed that their religions support the use of modern TB treatment. A total

number of 260 (88.44%) participants indicated that they would encourage a person with TB to adhere to treatment until course completion while on the other hand 130 (44.37%) of the participants strongly disagreed that they will advise a person on TB treatment to stop taking it and believe in God/Allah with 102 (34.81%) of the participants disagreeing to the same statement.

In this study 233 (78.98%) of the participants strongly agreed that they will advise a person on TB treatment to continue treatment even if the symptoms have improved while 7 (2.37%) participants indicated that they strongly disagree with taking treatment after symptoms improve. Among the participants of this study, 264 (89.80%) strongly agreed that they will encourage a person with TB to cover their mouth when coughing and 263 (89.46%) strongly agreed that they will encourage a person with TB to cough freely.

While on practices for TB prevention, 202 (68.71%) participants strongly agreed that they will provide food and nutritional support for persons with TB. A total of 189 (64.51%) participants strongly agreed that they will provide counselling and emotional support to a person with TB followed by 85 (29.01%) who agreed to the same statement and only 3 (1.02%) strongly disagreed that they will provide counselling and emotional support to a person with TB. Among the participants of this study 197 (68.88%) were not involved in any TB prevention activities as they answered either not sure, disagree or strongly disagree to the statement “I am involved in TB prevention activities”.

The current study shows that; modern treatment of TB has been a priority by respondents which made religious traditional treatment unpopular among the participants. Most of the study participants agreed to the fact that they motivate a person with TB to take treatment. These findings gave the impression that religious leaders were supporting a medical treatment of TB rather than a spiritual way of treatment. As a result, there is a need to embrace the religious leaders in preventing TB. However, a significant figure of the participants also indicated that they would take the spiritual way of treatment as an advice to the person infected with TB. Notwithstanding that most of the respondents agreed to the fact that they will offer full support through giving food and nutrition to people with TB and provision of counselling and emotional support to people with TB. The study also conforms

with that of Koh & Coles (2019:369) and Idler et al., (2019:3) results of both studies converge with the study by Berkley Centre (2015 and 2016) that faith-based organisations (FBO) are important in TB prevention and care. They indicated that there has been some partnership between the US government and the FBOs in health promotion. However, in Ethiopia the concerns about TB burden called for the attention of traditional leaders (Życzyńska-Ciołek & Kołczyńska 2020: 193).

4.7 STRATEGIES FOR TB PREVENTION

The participants were given an open-ended question to list all the strategies that best fit their religious beliefs. The responses are presented below on Table 4.4.

TABLE 4.4: STRATEGIES FOR PREVENTION OF TB BY RELIGIOUS LEADERS (n=265)

Phase one strategies for TB prevention	**Frequency (%)**
1. Cough hygiene (cover your mouth when coughing or sneezing)	74 (28%)
2. Healthy lifestyle	68 (26%)
3. Stop smoking	68 (26%)
4. Eat Healthy food	68 (26%)
5. Drink lots of water	68 (26%)
6. Avoid alcohol intake	68 (26%)
7. Wash hands regularly	68 (26%)
8. Medical Treatment (use modern treatment)	54 (20%)
9. Health Education through information campaigns training on TB).	36 (14%)
10. Indecisive (respondents indicated not sure or don't know, including missing cases)	27 (10%)
11. Prayer	14 (5%)
12. Isolation of patients with TB.	14 (5%)
13. Vaccination at an early age	13 (5%)
14. Wearing of masks in the public	9 (3%)
15. Early testing for TB	8 (3%)
16. Counselling	4 (20%)
17. Follow guidelines as provided by Centre for Disease Control (CDC)	2 (0.8%)

In this study cough hygiene was the most preferred strategy for TB prevention with 74 (28%) favour from the participants followed by a healthy lifestyle which included eating healthy food, drinking a lot of water, washing hands regularly avoiding alcohol intake and smoking with 68 (26%) each respectively. Furthermore, a good number 54 (20%) indicated that medical treatment is key in prevention of TB. A small portion of the population listed very important strategies for TB prevention like following treatment guidelines as provided by CDC 2 (0.8%). At least 27 (10%) of the participants who attempted this question, did not know of any strategy to prevent TB.

This study found that following TB guidelines as provided by the Centre for Disease Control (CDC) is important for TB prevention. The results are supported by Du Preez, Seddon, Schaaf and Hesseling (2020: 1) who suggested that following the guidelines provided by respective organisations such as UNICEF and WHO implicates positive change towards the prevention of TB. The study also noted that for effective prevention of TB, there is a need to embrace medical treatment and embark on health education through campaigns training on TB. The study results are supported by that of Strom, Bjune, Costa and Leren (2019: 2) who alluded that equipment of health education in the community is a very effective tool towards prevention of TB. The participants of this Phase of the study also indicated that TB prevention strategies should include counselling on TB treatment and adherence, early testing for TB and vaccination against TB.

The study also noted that wearing of masks in public and isolation of patients with TB is necessary in TB prevention as it will help to contain the infection. However, these results are criticised by Strom, Bjune, Costa and Leren (2019: 2) as they noted that isolation of patients with TB will lead to discrimination which does not appear good in the society. The study also found that some preferred TB prevention strategies included stop smoking and alcohol intake campaigns, praying as well as eating a healthy diet. In support of these results, Van et al (2019: 10) noted that eating healthy food stabilizes the immune system and helps to defend the body against bacteria. However, a study by Kupz, Zedler, Staber and Kaufmann (2016: 2) pointed out that there is no spiritual treatment of TB and HIV and Aids as many people are overshadowed by ignorance to believe that religion and spirituality helps to prevent such

diseases. The study also noted that drinking a lot of water helps to rehydrate the body leading to effective preventive measures against TB.

The study also noted that cough hygiene is a prevention strategy for TB as supported by Rudgard et al (2017: 4) who argued that cough hygiene is the most effective strategy to prevent airborne diseases and TB is no exception. This study converged with that of Farley et al (2019) as they noted that, having all healthy lifestyle aids to boost the immune system and preserve the body against TB. The study participants also indicated that hand hygiene is key in TB prevention. Poor hand hygiene is one of the most common infection transmission mediums. The findings of the study on counselling and TB treatment adherence strategies were supported by Strom, Bjune, Costa and Leren (2019: 3) who noted that counselling helps to boost the social and emotional being of patients, leading to fast recovery and TB treatment adherence.

4.8 CONCLUSION

This Chapter presented and discussed the results of Phase one of this study. The results were also discussed considering published literature on similar studies. The next Chapter will present and discuss Phase two results.

CHAPTER FIVE

Phase two: DELPHI TECHNIQUE

5.1 INTRODUCTION

The previous Chapter presented and discussed the results of Phase one of this study. This Chapter will present the steps which were followed in Delphi technique as depicted on Figure 5.1. The strategies developed in Phase one (Table 4.10) were integrated with the strategies developed in round one of the Delphi technique (Table 5.2). Thereafter, questionnaires for rounds two and 3 were developed and sent to religious leaders to evaluate the strategies (Table 5.3). After round three, the strategies were sent to ten TB experts for validation (Table 5.4). Figure 5.1 below shows how the Delphi technique was implemented.

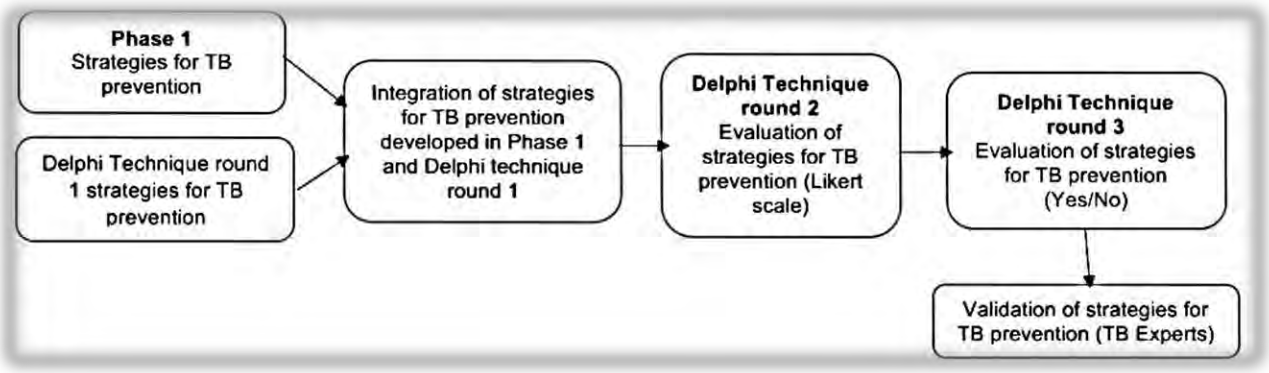


Figure 5.1 Delphi technique flow chart

5.2 DATA MANAGEMENT AND ANALYSIS

For this Phase data was collected in three rounds using questionnaires. All the data was kept as soft copies secured with a password. Analysis of the data was done according to different rounds of the Delphi technique as follows:

5.2.1 Delphi technique Round one

Qualitative content analysis was done. The participants were asked to outline TB prevention strategies that best fit their religion. The first step was reading and re-reading so that the researcher can understand the data. Thereafter, coding was done. The final step was

development of themes which represented a list of 43 strategies to prevent TB as outlined by the participants.

5.2.2 Delphi Technique Round two

The questionnaire for this round was compiled from integration of strategies from Phase one and round one. The participants of this round were experts who participated in round one. The questionnaire was sent for them to rate the level of agreement to the strategies on a Likert scale (Strongly agree, agree, not sure, disagree and strongly disagree). The results were downloaded to Microsoft Excel and analysed using Moon stats 2018 version 2.0. Mean and standard deviation was applied on this data and the results were presented in a table form.

5.2.3 Delphi Technique Round three

On this round the strategies compiled on round two were sent to the same group of participants to evaluate their choices of strategies to prevent TB by choosing YES or NO. Like round two, the results were downloaded to Microsoft Excel and analysed with Moon Stats 2018 version 2.2. The strategies were reduced to 28 after evaluation.

5.3 RESEARCH RESULTS AND DISCUSSION OF FINDINGS FOR DELPHI TECHNIQUE

The researcher selected participants based on expertise in the problem under investigation as outlined in Chapter three. The same participants were used for round one, 2 and 3 of the Delphi technique.

5.3.1 Sample Characteristics

This phase is guided and hinged upon the Delphi technique. The researcher selected experts only within the two variables (religion and TB). Minden, Frankel, Hadden, Perloff, Srinath and Hoaglin (2006:24) reinforced that an expert is “any individual with relevant knowledge and experience of a particular topic”. This depends upon the setting and objectives of the Delphi in question. In this regard, the participants selected in this study have an expertise in their

religions and expertise on TB. In this regard, strategies for TB prevention have been discussed based on the responses. It is very important to take note that the Delphi technique is a way of obtaining a collective view from individuals about issues where there is no or little definite evidence and where opinion is important. The process can engender group ownership and enable cohesion among individuals with diverse views (Humphrey-Murto & de Wit 2019:136).

This Phase of the study employed 100 participants. The response rate was outlined under each round. The participants were selected as experts in religion and TB as described under the operational definitions that they have a better understanding of their religions, and they have an understanding on TB. The socio demographic characteristics of these participants are presented below.

5.3.1.1 Age of the participants

Most of this study participants were between the ages of 30-39 years, 37 (37%) followed by 40-49 years with 24 (24%). The least number of participants were between the ages of 70-79 years, 3 (3%) and below the age of 18 with only 2 (2%). The results are presented in Figure 5.1 below.

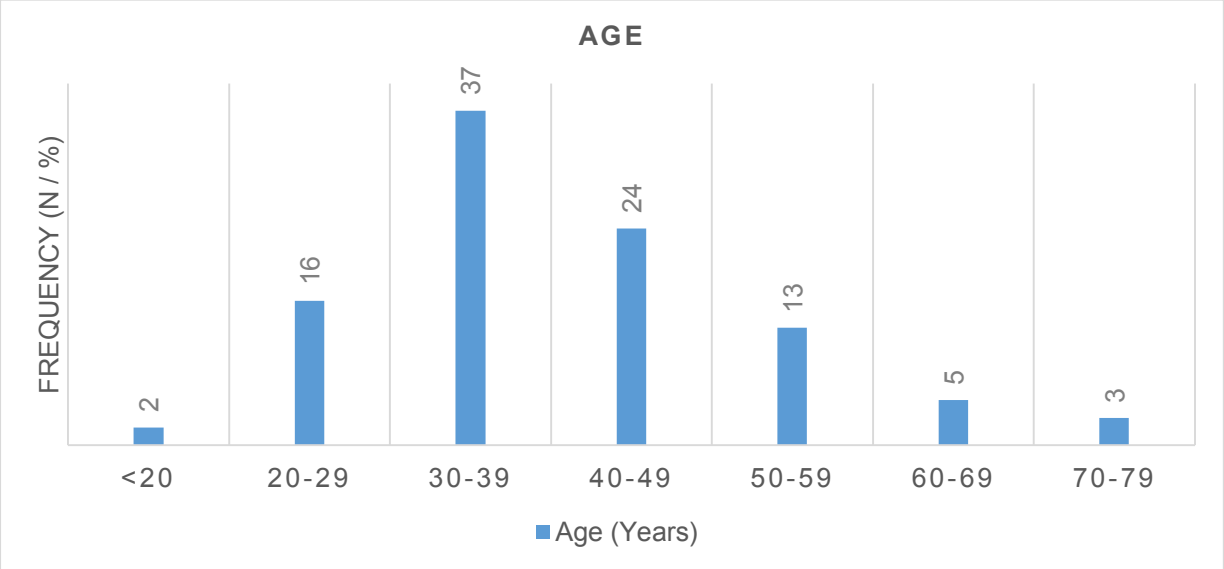


Figure 5.2 Participants' age (n=100)

The study participants provided meaningful responses that were utilised to analyse data. According to Fiske and Hauser (2014), the age of the participants helps to validate the findings based on the level of maturity in giving responses.

5.3.1.2 Gender of the participants

In this study more than half of the participants were males 56 (56%) and females were 44 (44%) as shown in Figure 5.2 below.

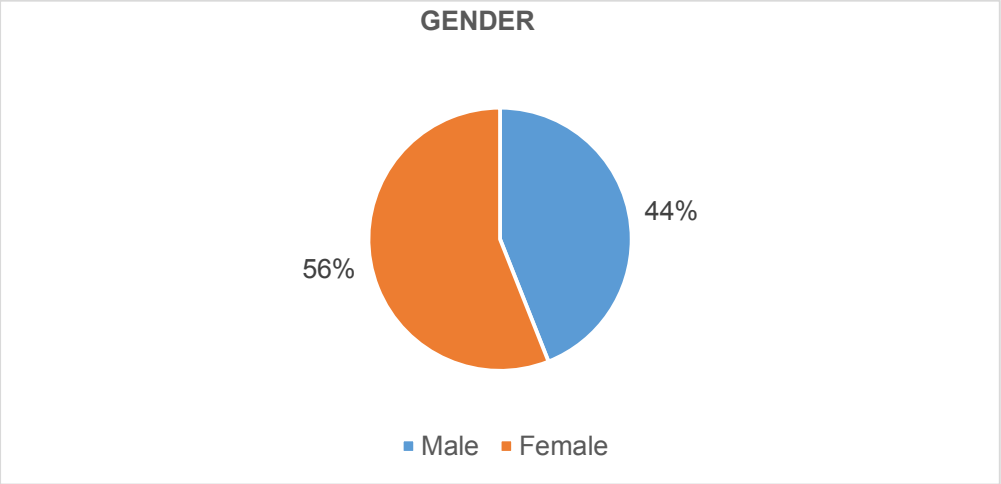


Figure 5.3 Participants gender (n=100)

The study was dominated with male participants as compared to female participants. However, it must be emphasised that the results were not affected based on gender differences rather the study focused on the in-depth information given by participants.

5.3.1.3 Highest level of Education

This Phase of the study included 33 (33%) participants with secondary education and 67 (67%) with tertiary education as presented in Figure 5.3 below.

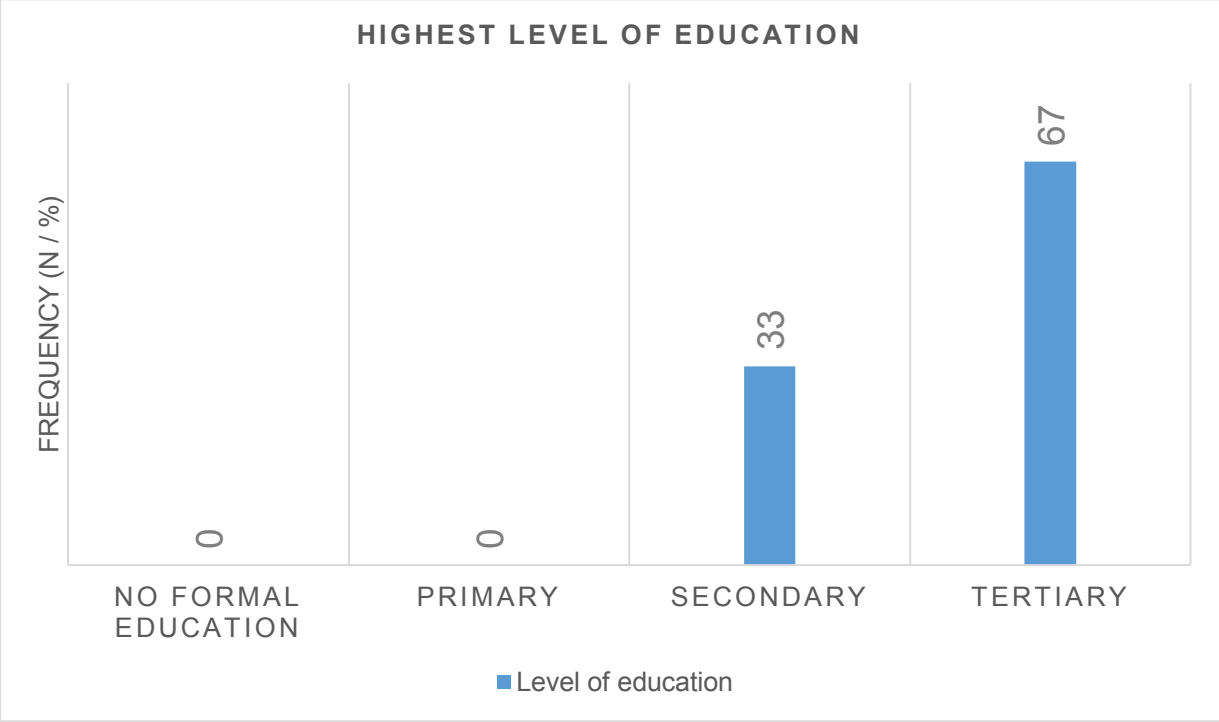


Figure 5.4 Participants' highest level of education (n=100)

Level of education is very important when dealing with research that needs in-depth information regarding a topic under study. According to Muller, Mathieson, and Saunders (2020:23), the study gives the impression that experts of knowledge of a phenomenon should have good knowledge to provide an insight into the phenomenon under study. Most of the participants in this study had attained a good level of education and this provided a better validity and confirmation about the phenomenon under study.

5.3.1.4 Marital status of the participants

At least more than half of the participants who took part in the Delphi procedure were single, 51 (51%), followed by 35 (35%) who were married and the rest 14 (14%) equally shared divorced and cohabiting status respectively. Results are as presented below in Figure 5.4.

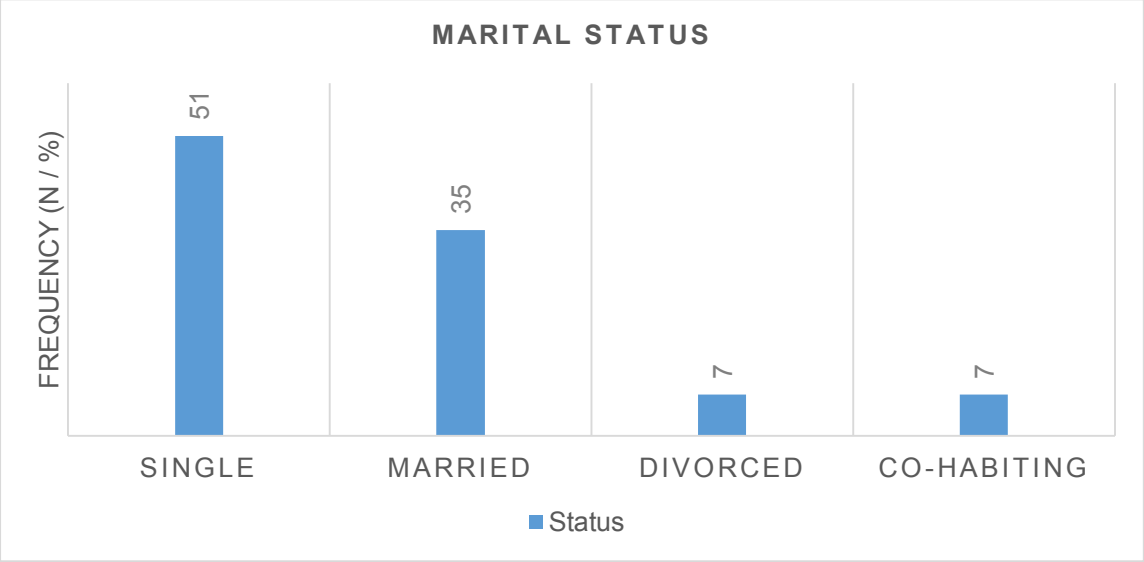


Figure 5.5 Participants' marital status (n=100)

Most of the respondents were single. However, the significance of the results was not defined by marital status; rather it was mainly concerned with the plutonic knowledge of TB prevention among the participants.

5.3.1.5 Religion of the participants

Over two thirds 73 (73%) of the participants were Christians and 27 (27%) identified as Moslems as presented below in Figure *5.5*.

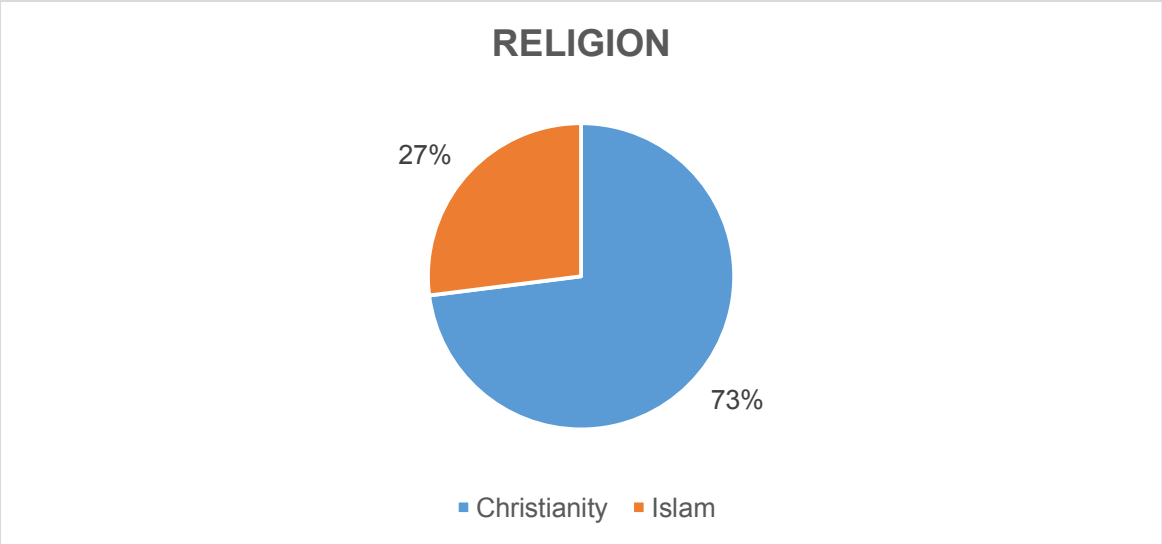


Figure 5.6 Participants' religion (n=100)

Religious affiliation, expert knowledge and doctrine of religion were important demographic factors in this research study. The research findings revealed that there were many participants under Christianity as compared to Islam. As a result, the majority of the responses in this study are from a Christian perspective.

5.3.1.6 Religious position of the participants

Among the participants of this study 33 (33%) were religious leaders and 77 (77%) were congregants respectively. Due to the constructs of Delphi technique utilised in this study, the selected participants at this stage were much crafted based on their religious position, influence and knowledge of both religion and TB. This helped to provide an insight to the research as more perceptions and strategies have been provided by key participants selected in this study. Most of this study participants were religious congregants than religious leaders. However, religious leaders at this stage helped to give a more religious doctrine and practice related strategies that can be used to improve on prevention of TB due to their rich knowledge of religion.

5.3.1.7 Training on TB

The participants who had training on TB were 67 (67%) while 37 (37%) had never had any form of training on TB. The crop of participants selected for this stage has been experts in the knowledge of both religion (doctrine, practice, philosophy, and ethics) that has something to do with TB (causes, prevention, and infection). As a result, the selection of participants at this stage was based on their expertise skills and knowledge in deliberating both religion and TB prevention strategies and efforts. Notably, most of the participants in this study passed through training on TB which might have influenced the manner in which they have responded to the specific questions.

5.4 STRATEGIES TO PREVENT TB

5.4.1 Round one

The participants were given a semi structured questionnaire (Annexure M) with an open-ended question to list strategies for TB prevention which best fit their religion. There was a 100% response rate. A total of 43 strategies were compiled from the feedback received form the participants. The results are presented on Table 5.1 below.

TABLE 5.1 STRATEGIES TO PREVENT TB ACCORDING TO THE PARTICIPANTS (N=100)

Strategies for TB prevention	Frequency
1. Cough hygiene for those with TB	97
2. Eating a well-balanced diet	58
3. Hand hygiene	42
4. Buildings should be well ventilated	27
5. Pray and fast asking God for protection and healing	20
6. Promote health seeking behaviour if one has signs and symptoms of TB	18
7. People with TB should be encouraged to wear face masks in public spaces	16
8. Counselling for people with TB and their families i.e., emotional and social	16
9. Treatment adherence for those with TB to prevent the spread of the disease	12
10. Promote vaccination against TB (BCG)	11
11. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held	10
12. Stop smoking and alcohol intake	10
13. Clean your living environment and maintain good sanitation	10
14. Educate the community on the causes, signs & symptoms of TB	8
15. Patients with TB should adhere to their follow up dates with the health care professionals	6
16. Maintain a healthy lifestyle	5
17. Isolate patients with TB in health care facilities to prevent cross infection	4
18. Trust in God while adhering to your TB treatment	3
19. Physical exercise	3
20. Wear protective clothing when caring for a patient with TB	2
21. There should be active involvement of religion in direct observed treatment (DOT)	2

22. Keep warm in winter	2
23. Follow TB guidelines for TB prevention as provided by World Health Organization and the Ministry of Health and Social Services	2
24. TB prevention campaigns and outreach by religion	2
25. The government laws should prohibit sale of alcohol and cigarettes	1
26. TB screening services at religious places like church and mosque	1
27. Religious services should be conducted in well ventilated buildings	1
28. Pasteurize your milk to prevent Bovine TB	1
29. If you have TB, do not visit people, and do not invite them to visit you	1
30. Drinking water with mixed herbs	1
31. Drink boiled water	1
32. Do not share clothing and dishes with a person with TB	1
33. Discourage sharing of holy communion cups	1
34. Chewing mopane worms	1
35. Agape love for those with TB and their families or affected parties	1
36. Do not discriminate against a person with TB	1
37. There should be sermons dedicated to TB in religious gatherings	1
38. Religion should be involved in TB contact tracing and counselling	1
39. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention	1
40. Meditation	1
41. Follow Halaal guidance	1
42. Advocacy activities for TB headed by religious leaders	1
43. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies	1

Cough hygiene was the most preferred strategy for TB prevention among the participants with 97 (97%) participants listing it among their strategies. Subsequent cough hygiene was eating a well-balanced diet with 58 (58%) responses. A total of 42 (42%) participants of this round listed hand hygiene as a preferred strategy for TB prevention in their religion, 20 (20%) listed good ventilation as a strategy for TB prevention. Most of the strategies were different from one participant to the next like chewing mopane worms, meditation and following the Halaal principles with 1 (1%) participant each respectively.

5.5 INTEGRATION OF THE FINDINGS OF PHASE ONE AND PHASE TWO AND VALIDATION BY TB EXPERTS

The first Phase of this study compiled 16 strategies targeting TB prevention by religious leaders while round one of Phase two produced 43 strategies for TB prevention. The strategies from both Phases are presented on Table 5.2 below.

TABLE 5.2 PHASE ONE AND ROUND ONE STRATEGIES FOR TB PREVENTION

Phase one strategies for TB prevention	Round one strategies for TB prevention
1. Follow guidelines as provided by Centre for Disease Control (CDC)	1. Cough hygiene for those with TB
2. Medical Treatment (use modern treatment)	2. Eating a well-balanced diet
3. Counselling	3. Hand hygiene
4. Wearing of masks in the public	4. Buildings should be well ventilated
5. Early testing	5. Pray and fast asking God for protection and healing
6. Cough hygiene (cover your mouth when coughing or sneezing)	6. Promote health seeking behaviour if one has signs and symptoms of TB
7. Vaccination at an early age	7. People with TB should be encouraged to wear face masks in public spaces
8. Healthy lifestyle (Stop smoking, eat health food, drink lots of water, avoid alcohol intake, wash hands regularly)	8. Counselling for people with TB and their families i.e., emotional, and social
9. Prayer	9. Treatment adherence for those with TB to prevent the spread of the disease
10. Isolation of patients with TB.	10. Promote vaccination against TB (BCG)
11. Health Education through information campaigns training on TB).	11. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held
12. Stop smoking	12. Stop smoking and alcohol intake
13. Eat Health food	13. Clean your living environment and maintain good sanitation
14. Drink lots of water	14. Educate the community on the causes, signs & symptoms of TB
15. Avoid alcohol intake	15. Patients with TB should adhere to their follow up dates with the health care professionals

16. Wash hands regularly	16. Maintain a healthy lifestyle
	17. Isolate patients with TB in health care facilities to prevent cross infection
	18. Trust in God while adhering to your TB treatment
	19. Physical exercise
	20. Wear protective clothing when caring for a patient with TB
	21. There should be active involvement of religion in direct observed treatment (DOT)
	22. Keep warm in winter
	23. Follow TB guidelines for TB prevention as provided by World Health Organization and the Ministry of Health and Social Services
	24. TB prevention campaigns and outreach by religion
	25. The government laws should prohibit sale of alcohol and cigarettes
	26. TB screening services at religious places like church and mosque
	27. Religious services should be conducted in well ventilated buildings
	28. Pasteurize your milk to prevent Bovine TB
	29. If you have TB, do not visit people, and do not invite them to visit you
	30. Drinking water with mixed herbs
	31. Drink boiled water
	32. Do not share clothing and dishes with a person with TB
	33. Discourage sharing of holy communion cups
	34. Chewing mopane worms
	35. Agape love for those with TB and their families or affected parties
	36. Do not discriminate against a person with TB
	37. There should be sermons dedicated to TB in religious gatherings
	38. Religion should be involved in TB contact tracing and counselling

	39. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention
	40. Meditation
	41. Follow Halaal guidance
	42. Advocacy activities for TB headed by religious leaders
	43. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies

The strategies developed in Phase one of the study and Phase two Delphi round one strategies as presented on table 5.2 above will be discussed comparatively. Both results from Phase one and round one converges on following guidelines as provided by Centre for Disease Control (CDC) in prevention of TB. In addition, counselling was favoured in both Phases. These study findings are reinforced by that of Churchyard and Swindells (2019: 2) who indicated that creating a centre of reaction and response on TB treatment and screening counselling is necessary to be implemented in a quest to prevent the spread of TB.

As tabulated above, participants from both Phase one and round one indicated that patients with TB should wear masks in public areas to avoid transmission to those who are not infected. Also, findings from both Phase one and round one indicated that cough hygiene (covering your mouth when coughing or sneezing) is very important in preventing TB. These results are interpreted considering a study by Chakaya, Harries and Marks (2020: 7) who alluded that TB and COVID 19 strike similar and it is important to practice hand and cough hygiene to avoid the spread of these diseases. With the relationship between Covd-19 and TB, it is very important to follow TB prevention measures to prevent the burden of TB as exaggerated by this new pandemic. In the same vein, this study noted that vaccination against TB and living a healthy lifestyle (stop smoking, eat healthy food, drink lots of water and avoiding alcohol intake) is key in prevention against TB.

The participants of both round one and Phase one attested that praying and fasting asking God for protection and healing will also work in prevention against TB. They indicated that people with TB should be isolated in health care facilities to prevent cross infection. These

strategies are supported by Martinez et al (2019: 1) that to prevent TB there is need for isolation in creation of a very strict environment to prevent TB. Handwashing is one of the most important strategies in infection prevention and control in healthcare and both round one and Phase one listed it as a TB prevention strategy. Health education through information campaigns training on TB was deemed important towards the prevention of TB in this study. A study by Moller et al (2019: 3) noted that educating the people through information on how to prevent TB is necessary to engage from the grassroots within communities.

The strategies outlined in Phase 1 of this study were very limited therefore, differences exist on results from Phase one and round one which could be because round one employed experts in TB and religion. Round one found that the participants indicated that buildings should be well ventilated and there must be a promotion of health seeking behaviour if one has signs and symptoms of TB. Also, findings from round one noted that TB treatment adherence for those with TB to prevent the spread of the disease is important. The results are concretised by a recent study of Young, Walzl and Du Plessis (2020: 193) that adherence to medication on TB and HIV and Aids helps to increase the speed of recovery. Results from round one had also recommended the use of fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held, a clean-living environment and maintenance of good environmental sanitation in prevention of TB.

Since round one participants were experts, community education (causes, signs and symptoms of TB) was listed as a strategy for TB prevention. The results from TB and religious experts in round one further noted that patients with TB should adhere to their follow up dates with the health care professionals. The study results coincide with that of González et al (2020: 6) who noted that poor follow up of check-ups lead to a loss of life through TB in most uneducated societies. Round one finding noted that, in as much as people should trust in God there is a need to adhere to TB treatment in the process of treatment and prevention. The results from round one strategies encouraged physical exercise in fighting against TB. Therefore, people should engage in physical fitness to maintain a healthy lifestyle that prepares the body's immune system to fight against TB. Du Preez, Seddon, Schaaf and Hesseling (2020: 1) support this study results by indicating that physical exercise helps to

mitigate TB. While maintaining a healthy lifestyle, results from round one emphasised wearing protective clothing when caring for a patient with TB as one of the most important strategies to prevent TB.

The results from round one emphasised active involvement of religion in Direct Observed Treatment (DOT). Therefore, religious organisations were considered as the active participants in TB treatment intake and adherence. The study results are supported by that of Bhargava and Juneja (2020: 2) that there is a need to use religious organisations to mitigate the challenges associated with TB treatment non-adherence and the spread of TB. Round1 also noted that people should keep warm in winter to avoid respiratory conditions that might predispose individuals to TB. Although outlined above as part of community education campaigns, round one shows that there should be TB prevention campaigns and outreach by religion as a strategy to counter TB infection in religious organisations. Despite this, the results from round one also noted that government laws should prohibit sale of alcohol and cigarettes and there should be explicit referral systems and recommendations for TB screening services at religious places like church and mosque. Interestingly, Schrager et al (2020: 4) alluded that TB and COVID 19 screening should be implemented from religious organisations as most people gather in religious settings, hence the threat and risk to transmit such diseases is very high at these gatherings.

The experts in round one went beyond pulmonary TB prevention strategies by indicating that people should pasteurize their milk to prevent Bovine TB. Furthermore, round one encouraged that people with TB should limit visiting other people as this may expose the uninfected individuals if precautions are not followed during these visits. Other strategies included drinking water with mixed herbs, drinking boiled water and people should not share clothing and dishes with a person infected by TB. There seems to be no scientific evidence supporting these strategies however, there might be a significance religiously. Uplekar et al (2015: 1799) supported that holy communion cups should not be shared as this can spread infection which might not be limited to TB only. In as much as round one recruited TB and religion experts, the results also pinpointed that, there is need for Agape love for those with TB and their families or affected parties which shows the diversity of the experts in this part of the study.

The results from round one also raised a strategy that people should avoid discrimination against people with TB rather they should be sermons dedicated to TB in religious gatherings. Furthermore, religion should be involved in TB contact tracing and counselling. A study by Hassan et al (2017) shows that 80% of the patients who went through tracing and counselling in that study healed faster than those without counselling. It must be noted that results from round one also confirms that there should be information pamphlets about TB in religious facilities for distribution in order to show support on TB prevention. However, they also pointed out that meditation and following Halaal guidance is necessary to prevent the infection of TB. However, Uplekar et al (2015): 1800 condemned religious meditation with the reason that it will not take away the bacteria rather there is need to adhere to the treatment of TB.

The study findings from round one also noted that advocacy activities for TB headed by religious leaders is key in TB prevention. This is supported by a study of Noé et al (2017: 1) who alluded that the use of icon leaders is a very effective way to spread the prevention measures against diseases or pandemics especially in African countries. Parallel to this round one, results by Uplekar et al (2015: 1799) also noted that religion should be in the forefront in community mobilization for effective communication and participation in the strategies for TB prevention.

5.6 ROUND TWO

The strategies compiled on Round one were integrated with Phase one strategies to develop round two questionnaire (Annexure N) and sent to the participants to rate their level of agreement with the strategies on a Likert scale. The response rate for this round was 86% with a non-response rate of 14%. Follow up was made on non-response but proved futile. The results were analysed and presented in terms of mean and standard deviation as shown in Table 5.3 below.

TABLE 5.3 STRATEGIES TO PREVENT TB ACCORDING TO THE PARTICIPANTS (N=86)

Strategies for TB prevention	Mean	Standard Deviation
1. Cough hygiene for those with TB	1.19	0.42
2. Eating a well-balanced diet	2.29	1.27
3. Hand hygiene	1.24	0.43
4. Buildings should be well ventilated	1.68	0.85
5. Pray and fast asking God for protection and healing	1.26	0.60
6. Promote health seeking behaviour if one has signs and symptoms of TB	1.57	0.88
7. People with TB should be encouraged to wear face masks in public spaces	1.23	0.50
8. Counselling for people with TB and their families i.e., emotional and social	1.18	0.38
9. Treatment adherence for those with TB to prevent the spread of the disease	1.22	0.49
10. Promote vaccination against TB (BCG)	1.12	0.39
11. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held	1.19	0.45
12. Stop smoking and alcohol intake	1.19	0.45
13. Clean your living environment and maintain good sanitation	1.12	0.32
14. Educate the community on the causes, signs & symptoms of TB	1.14	0.44
15. Patients with TB should adhere to their follow up dates with the health care professionals	1.23	0.42
16. Maintain a healthy lifestyle	2.35	0.22
17. Isolate patients with TB in health care facilities to prevent cross infection	1.23	0.42
18. Trust in God while adhering to your TB treatment	2.14	1.07
19. Physical exercise	3.15	1.14
20. Wear protective clothing when caring for a patient with TB	1.11	0.49
21. There should be active involvement of religion in direct observed treatment (DOT)	1.66	0.90
22. Keep warm in winter	2.76	1.14
23. Follow TB guidelines for TB prevention as provided by World Health Organization and the Ministry of Health and Social Services	3.21	1.06
24. TB prevention campaigns and outreach by religion	1.80	1.11
25. The government laws should prohibit sale of alcohol and cigarettes	1.65	0.99
26. TB screening services at religious places like church and mosque	2.40	1.39
27. Religious services should be conducted in well ventilated buildings	2.81	1.31
28. Pasteurize your milk to prevent Bovine TB	2.30	1.03
29. If you have TB, do not visit people, and do not invite them to visit you	1.36	0.74
30. Drinking water with mixed herbs	1.50	0.90

31. Drink boiled water	2.45	1.17
32. Do not share clothing and dishes with a person with TB	2.22	1.16
33. Discourage sharing of holy communion cups	2.08	1.11
34. Chewing mopane worms	1.10	0.51
35. Agape love for those with TB and their families or affected parties	2.49	1.18
36. Do not discriminate against a person with TB	2.13	1.18
37. There should be sermons dedicated to TB in religious gatherings	1.60	0.90
38. Religion should be involved in TB contact tracing and counselling	2.33	1.11
39. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention	1.21	0.60
40. Meditation	3.05	1.02
41. Follow Halaal guidance	2.12	1.05
42. Advocacy activities for TB headed by religious leaders	2.16	1.03
43. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies	1.86	1.02

This study found that a 2.29 mean which gives a positive standard deviation consistent score of 1.27 showing that eating a well-balanced diet was well supported in preventing TB. Cough hygiene for those with TB was regarded with a slight significant notably a mean of 1.19 with a constant standard deviation of 0.42 showing that the strategy was relevant. The mean of 2.29 and a positive significant value standard deviation of 1.24 eating a well-balanced diet is good enough to prevent TB. Whilst hand hygiene was notably recorded as having a significant mean of 1.24 with a more consistent score of 0.43 standard deviation suggesting that it was regarded as a common way of preventing TB.

This study noted that buildings should be well ventilated with a remarkable mean of 1.68 and a consistent standard deviation of 0.85 which is positive to support the strategy. Praying and fasting and asking God for protection and healing was also significant as noted through a notable mean of 1.26 and gives a consistent value of 0.60 standard deviations that shows that the strategy has been considered positive and accepted. Promoting health-seeking behavior if one has signs and symptoms of TB had a mean of 1.57 and a significant standard deviation of 0.8 meaning the strategy has been fully supported by participants. The participants of this study indicated that people with TB should be encouraged to wear face masks in public spaces confirmed with a mean of 1.23 and a standard deviation of 0.50

suggesting that the strategy has been supported. It has been noted in the findings that, counselling for people with TB and their families i.e., emotional, and social is the best strategy as supported by a mean of 1.18 and a consistent of 0.38.

Treatment adherence for persons with TB to prevent the spread of the disease was supported by a mean of 1.22 which provided a consistent standard deviation of 0.49 suggesting that the strategy is supported. Also, the study results noted that there is a need to promote vaccination against TB (BCG) which is supported by a significant mean of 1.12 and a significant standard deviation of 0.39 suggesting that the strategy was strongly supported. The use of fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held was fully supported with a notable mean of 1.19 and a standard deviation of 0.45 suggesting that the strategy was fully supported while participants also suggested stopping smoking and alcohol intake as a prevention strategy with a mean of 1.19 and consistent standard deviation of 0.45.

According to study results cleaning the living environment and maintaining good sanitation is notably with a mean of 1.12 and standard deviation consistent of 0.32. Educating the community on the causes, signs & symptoms of TB was fully sustained with a mean of 1.14 and a reliable standard deviation of 0.44. The strategy on patients with TB adhering to their follow up dates with the health care professionals was supported with a mean of 1.23 and a consistent standard deviation of 0.42 meaning that the strategy was supported. The study participants also supported maintaining a healthy lifestyle is very crucial and is supported by a mean of 2.35 and a standard deviation of 0.22 suggesting that the strategy is fully supported.

Isolate patients with TB to prevent cross-infection as supported by a mean of 1.23 and a reliable standard deviation of 0.42 suggesting that the strategy has been fully supported. Trust in God while adhering to your TB treatment helps to prevent TB as this is supported by a mean of 2.14 and a reliable standard deviation of 1.07. On the other hand, physical exercise is a very important strategy in preventing TB with a mean of 3.15 and a consistent standard deviation of 1.14 meaning the strategy has been supported. Also, the study findings pointed that, wearing protective clothing when caring for a patient with TB is a consistent

mean of 1.11 and a standard deviation of 0.49 suggesting that the strategy was also supported. The findings also supported the claim that there should be the active involvement of religion in directly observed treatment (DOT) with a mean of 1.66 and a reliable standard deviation of 0.90 suggesting that the strategy has been supported.

Keeping warm in winter with a notable mean of 2.76 and a reliable standard deviation of 1.14. More so, the study findings are noted that, following TB guidelines for TB prevention as provided by the World Health Organization and the Ministry of Health and Social Services with a mean of 3.21 and a consistent standard deviation of 1.06 meaning that the strategy has been supported. TB prevention campaigns and outreach by religion has been reported with a mean of 1.80 and a notable standard deviation of 1.11 suggesting that, the meaning that the strategy has been supported.

The study participants believed the government laws should prohibit the sale of alcohol and cigarettes with a mean of 1.65 and constant standard deviation of 0.99 suggesting that the strategy has been supported. TB screening services at religious places like churches and mosques was confirmed with a mean of 2.40 and a notable standard deviation of 1.39 while the strategy that religious services should be conducted in well-ventilated buildings was supported by a mean of 2.81 and a reliable standard deviation of 1.31. On pasteurizing milk in preventing Bovine TB was supported with a mean of 2.30 and a notable standard deviation of 1.03 meaning that the strategy has been supported. Avoiding visiting people while one has TB has been supported by a mean of 1.36 and a consistent standard deviation of 0.74 meaning the strategy has been fully supported. Drinking water with mixed herbs had a mean of 1.50 and a constant standard deviation of 0.90. suggesting that the strategy has been fully supported. TB prevention through drinking boiled water was supported with a mean of 2.45 and a consistent standard deviation of 1.17 meaning the strategy has also received support.

Avoiding sharing clothing and dishes with a person with TB in preventing TB was randomly supported with a mean of 2.22 and a standard deviation of 1.16. Discouraging sharing of Holy Communion cups has been supported with a mean of 2.08 and a consistent standard deviation of 1.11 proving that, the strategy has been supported. The study findings also noted that chewing mopane worms to prevent TB had a notable mean of 1.10 and a constant

standard deviation of 0.51 meaning the strategy has been supported. This study supported agape love for those with TB and their families or affected parties with a mean of 2.49 and a reliable standard deviation of 1.18 suggesting that the strategy has been randomly supported.

The study also noted that there is a need not to discriminate against a person with TB with a supported mean of 2.13 and a standard deviation with a standard deviation of 1.18 suggesting that the strategy has been full There should be sermons dedicated to TB in religious gatherings as this is supported by a mean of 1.60 and a consistent standard deviation of 0.90 suggesting that the strategy has been fully supported. The study also noted that religion should be involved in TB contact tracing and counselling, and it has been supported by a mean of 2.33 and a notable standard deviation of 1.11.

Information pamphlets about TB in religious facilities for distribution to show support on TB prevention had a mean of 1.21 and a standard deviation of 0.60 while meditation has been had a 3.05 and a reliable standard deviation of 1.02 suggesting that the strategy has been supported. Following Halaal guidance in preventing TB had a mean of 2.12 and a steadfast standard deviation of 1.05 meaning that the strategy has been supported significantly. Advocacy activities for TB headed by religious leaders had a notable mean of 2.16 and an unswerving standard deviation of 1.03 suggesting that the strategy has been fully supported. It has been noted that religion should be at the forefront in community mobilization for effective communication and participation in TB prevention strategies as supported with a mean of 1.86 and an increased standard deviation of 1.02 meaning the strategy has been supported.

5.7 ROUND THREE

The participants were given the same strategies on a questionnaire (Annexure O) to re-evaluate their choice by indicating Yes for the strategies they choose and No for the ones they do not agree with. The response rate for this round was 86% with a non-response rate of 14%. The results were analysed in percentages. The participants had 100% consensus on 28 strategies for TB prevention while they disagreed on 15. The results are presented on Table 5.4 below:

TABLE 5.4 STRATEGIES TO PREVENT TB ACCORDING TO THE PARTICIPANTS (N=86)

Strategies for TB prevention	YES (%)	NO (%)
1. Cough hygiene for those with TB	100	0
2. Eating a well-balanced diet	100	0
3. Hand hygiene	100	0
4. Buildings should be well ventilated	100	0
5. Pray and fast asking God for protection and healing	100	0
6. Promote health seeking behaviour if one has signs and symptoms of TB	100	0
7. People with TB should be encouraged to wear face masks in public spaces	94	6
8. Counselling for people with TB and their families i.e., emotional, and social	100	0
9. Treatment adherence for those with TB to prevent the spread of the disease	100	0
10. Promote vaccination against TB (BCG)	100	0
11. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held	100	0
12. Stop smoking and alcohol intake	100	0
13. Clean your living environment and maintain good sanitation	100	0
14. Educate the community on the causes, signs & symptoms of TB	100	0
15. Patients with TB should adhere to their follow up dates with the health care professionals	100	0
16. Maintain a healthy lifestyle	100	0
17. Isolate patients with TB in health care facilities to prevent cross infection	100	0
18. Trust in God while adhering to your TB treatment	73	27
19. Physical exercise	36	64
20. Wear protective clothing when caring for a patient with TB	100	0
21. There should be active involvement of religion in direct observed treatment (DOT)	100	0
22. Keep warm in winter	45	55
23. Follow TB guidelines for TB prevention as provided by World Health Organization and the Ministry of Health and Social Services	34	66
24. TB prevention campaigns and outreach by religion	100	0
25. The government laws should prohibit sale of alcohol and cigarettes	100	0
26. TB screening services at religious places like church and mosque	100	0
27. Religious services should be conducted in well ventilated buildings	100	0
28. Pasteurize your milk to prevent Bovine TB	75	25
29. If you have TB, do not visit people, and do not invite them to visit you	100	0
30. Drinking water with mixed herbs	93	7
31. Drink boiled water	63	37
32. Do not share clothing and dishes with a person with TB	75	25

33. Discourage sharing of holy communion cups	25	75
34. Chewing mopane worms	98	2
35. Agape love for those with TB and their families or affected parties	54	46
36. Do not discriminate against a person with TB	86	16
37. There should be sermons dedicated to TB in religious gatherings	100	0
38. Religion should be involved in TB contact tracing and counselling	100	0
39. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention	100	0
40. Meditation	29	71
41. Follow Halaal guidance	80	20
42. Advocacy activities for TB headed by religious leaders	100	0
43. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies	100	0

Round three of the Delphi technique was aimed at screening out strategies without group consensus. The strategies which reached 100% group consensus are discussed. The participants reached a consensus in cough hygiene, eating a well-balanced diet and hand hygiene as strategies for prevention of TB. These results were reinforced by the findings of Basho run, et al (2020: 10) who noted that a well-balanced diet and hand hygiene helps in preventing diseases such as Cholera, Typhoid, COVID 19 and TB. Furthermore, the study proposed that buildings should be well ventilated, praying and fasting asking God for protection and healing should be part of TB prevention strategies. Consensus was also reached on the need for promoting health seeking behaviour if one has signs and symptoms of TB, counselling for people with TB and their families i.e., emotional, and social helps towards the adherence of TB treatment strategies. These strategies are supported by Adane et al (2017: 5) who claimed that social and emotional support lead to a speedy recovery against TB and HIV and Aids.

This round reached a consensus that there must be promotion of vaccination against TB (BCG) to prevent TB. Datiko, Habte, Jerene, and Suarez (2019: 9) supported this strategy by emphasising that BCG vaccine helps to prevent TB from early childhood which most religious doctrines do not support as they are affected by indoctrination and conspiracy theorists who hide in theological principles to prevent people to get the treatment at childbirth. The participants of this study could be applauded for objective decision making in this regard

which shows reasonable rationality with minimum religious influence. While highlighting the strategies that received favour from all the participants, the use of fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held, healthy lifestyle (no smoking and alcohol intake) strategies reached 100% group consensus. However, Adane et al (2017:6) cautioned that in as much as smoking and drinking alcohol predispose individuals to TB, it is sometimes difficult to control an adult's social habits. Therefore, this strategy calls for active involvement of not only the religious leaders but the community at large because smoking and alcohol intake as referred to as social habits, are consumed in social gatherings and social gathering might be a fertile ground for TB transmission. In addition, consensus was reached on a clean living environment and good sanitation TB for TB prevention.

This study reached a consensus that there is a need to educate the community on the causes, signs & symptoms of TB and patients with TB should adhere to their follow up dates with the health care professionals. These strategies were supported with that of Hager et al (2020) who related TB to COVID 19 and emphasised that prevention of these diseases calls for intense campaigns. This study participants concluded that there is need to isolate patients with TB in health care facilities to prevent cross infection, care takers should wear protective clothing when caring for a patient with TB, active involvement of religion in Direct Observed Treatment (DOT), TB prevention campaigns and outreach by religion, enabling government laws to prohibit the sale of alcohol and cigarettes are key strategies in TB prevention.

This study findings also showed that TB screening services at religious places like church and mosque are necessary as supported by Farley et al (2019: 4). Round three highlighted that there should be sermons dedicated to TB in religious gatherings, religion should be involved in TB contact tracing and counselling and there should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention. The results are supported by Oga-Omenka et al (2020: 22) who indicated that there is a need to educate the community about diseases such as TB, COVID 19 and any other threatening diseases, by sharing information in religious settings. More of the strategies that received group consensus include advocacy activities for TB prevention headed by religious leaders and religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies.

It is also important to illuminate the strategies which did not get 100% group consensus and interpret it with literature on the same subject. Meditation and following Halaal guidance did not get 100% group consensus. These are religious practices which have been criticized by Noé (2017: 1) indicating that religion is the breeding ground of the spread of diseases such as TB and that people need to be taken from that cave of ignorance and medically brain washed practices to avoid the spread of TB. More of these religious practices listed as strategies for TB prevention included drinking water with mixed herbs, drinking boiled water, not sharing clothing and dishes also with people with TB. Farley (2019: 5) noted that drinking boiled water has been domestically used but not scientifically proven as its TB prevention measure. Although sharing of Holy Communion cups and chewing mopane worms did not get group consensus as a strategy for TB prevention, Farley et al (2019: 6) noted that religious ceremonies such as Holy Communion days sometimes creates a breeding ground from waterborne and airborne diseases. On the other hand, mopane worms are a staple food in Namibia and are one of the richest protein sources that can boost one's health status and assist in the fight against TB.

The participants condemned Agape love for TB prevention as it did not get 100% consensus. In agreement to these results, Nolna et al (2016: 9) alluded that there is a need to educate religious organisations to practice their ceremony in respect to the medical requirements to avoid the spread of diseases including TB because sometimes infection prevention precautions might be misinterpreted as hate or lack of love for one's neighbour. The two strategies which are no discrimination against a person with TB and the need to keep warm in winter always were not supported but the that does not discredit the fact that respiratory diseases predispose individuals to TB.

It is important to highlight that following TB guidelines for TB prevention as provided by the World Health Organization and the Ministry of Health and Social Services did not get 100% group consensus although it is an important strategy in TB prevention. This could be influenced by the fact that the experts wanted to select strategies that are pioneered by religious leaders. Farley et al (2019: 6) emphasise that following the guideline from some well-organised organisations that are committed to the prevention of TB is necessary in TB

prevention. Wearing of face masks in public spaces as well as pasteurising milk to prevent Bovine TB did not get group consensus.

5.8 CONCLUSION

In this Chapter, results for Phase two (Delphi technique) were presented and controlled with literature. The next Chapter will present the strategies developed to enhance participation in the prevention of TB by religious leaders in Khomas Region, Namibia.

CHAPTER SIX

STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TB BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

6.1 INTRODUCTION

This Chapter unravelled the integration of results together with the proposed implementation of strategies for prevention of TB by religious leaders in Khomas Region. This chapter unpacks the verification or validation of the findings of this study from a health expertise perspective. It must be noted that having such a validation will help to holistically implement the strategies proposed in a bid to prevent TB in religious settings.

6.2 VALIDATION OF THE RESULTS

Validation is the process of comparing two results. In this process, the study will compare the representation of a conceptual model to the real system. If the comparison is true, then it is valid, else invalid (Lindenauer et al, 2011:142). The purpose of this was to ensure that the strategies developed met the needs for which they are developed for and ensure that although they are to be implemented by religious leaders, they meet the acceptable standards, and they are practical. The strategies were sent to a group of 10 experts in the field of TB care and academia to review the validity (Annexure P). The selection of the experts was based on their clinical and academic experience in TB.

6.3 INTEGRATION OF THE STUDY FINDINGS WITH THE THEORETICAL FOUNDATION

6.3.1 Health Belief Model

This study utilised the health belief model (HBM). This theory helped to understand how knowledge and attitudes of religious leaders and congregants on TB and their practices on TB prevention influence their readiness to participate in TB prevention in Khomas Region, Namibia. The findings in this study confirmed that the knowledge and attitudes that religious leaders and congregants have determines the standard of prevention of TB practices. Abraham and Shreeran (2014:31) indicated that the HBM focuses on two aspects of

individuals' representations of health and health behaviour which are threat perception and behavioural evaluation. This study has constructed that the religious threats, fear of the unknown and attitude of the religious leaders in the process of religious doctrine interpretation affects the readiness of individuals to participate in TB prevention activities.

The HBM has two main components on threat perception construed as two key beliefs: perceived susceptibility to illness or health problems, and anticipated severity of the consequences of illnesses. The study findings depict the notion of religious leaders having a better awareness on TB and the consequences of not adhering to TB treatment. Even though some religious leaders and their congregants are adamant in believing more into the spirituality of the disease, there has been a positive outcome of results that direct to a positive prevention of TB since religious leaders and congregants had enough knowledge on the causes, treatment, and prevention of TB.

Furthermore, according to HBM there is still a serious component of behavioural evaluation which also consists of two distinct sets of beliefs: those concerning the benefits or efficacy of a recommended health behaviour, and those concerning the costs of, or barriers to, enacting the behaviour. This construct of the HBM helped to understand the behaviour of the participants towards people with TB and their behaviour determining the transmission, prevention, and treatment of TB.

Lastly, the HBM model proposes that cues to action can activate health behaviour when appropriate beliefs are held. The HBM helped in this study to understand the appropriate beliefs that reinforce a better health outcome. Be it that it may be, it has been noted in this study that, religious leaders and their congregants have been practicing and believing in the appropriate prevention measures, adhering to treatment measures, and having a belief in the appropriate medical treatment of TB, knowledge about transmission and received some training on TB to improve the awareness of the diseases' result, the HBM directed this study to the *cues.* These 'cues' include a diverse range of triggers, including individual perceptions of symptoms, social influence, and health education campaigns. This proponent of the argument of HBM held this research in understanding the perceptions of symptoms, identifying the people with social influence, in this case it was religious leaders and some

religious congregants who were also having better positions in both religious sectors and health sectors. This therefore helped this research to verify the depth of knowledge of the strategies preferred by the participants as they were experts in both or either.

6.3.2 Social ecological model

The study also utilised the Social Ecological Model (SEM), a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that determine behaviours and for identifying behavioural and organizational leverage points and intermediaries for health promotion within organizations (Jason, Carr, Washington, Hilliard & Mingo 2017: 10). In this regard, the SEM helped to underpin the social behaviour and their chain in leading to the outcome in this case strategies to enhance participation of religious leaders in the prevention of TB. The SEM model helped to rationalize the connections and intervals between the individual as an atomic being, the individual as a social animal where information and awareness regarding TB can be generated, organizational association of the individual which might change the perception on TB through ethical doctrines of the religion. At this stage there is a dilemma in thinking and practice as the individual is put in a situation where he or she can adhere to what the religion and heath is demanding. Usually, in this case, the SEM model helps in coming up with the perception of the individual who is associated with the social networks (measuring what he or she knows and what others are saying), organizational (what the religious organization says and what he or she says), community (what the cultural value of the community says and what the individual says). As a result, the attitude of the person can be influenced by such a background. In this study, the religious leaders were considered the intermediaries for prevention of TB in their communities.

6.3.3 Hybrid Theory

The hybrid theory (Figure 6.1) has been developed based on the research findings, the SEM and the HBM. The concepts of the HBM and SEM were integrated to create the hybrid model. The hybrid model concepts underpin the interpretation of this study results as described in this section. The concept of individual knowledge, attitude and beliefs prompted the researcher to investigate more about the perceptions of individuals on TB. The interpersonal

concept, human beings (participants) in this case were understood as social animals who can socialize and gather. The participants were regarded as having a social network that brings about religious gatherings where TB can be transmitted and where sharing of knowledge about TB can be communicated. Therefore, the nature and the perceptions of TB projected during group discussions may influence an individual perception of the severity of TB. The organisation's concept (church, mosque, and religious doctrine) was also key in this study and understood considering the concept of community. The community in this study has been deemed to understand cultural values and norms, knowledge diffusion, influence, and mythical explanation and in this case a religion institute is understood as organisations. The individual aspect of the study helps to understand perceived susceptibility whilst interpersonal has been used to measure the perceived severity as indicated above. The study utilised religious organisations to measure perceived benefits. Also, the community in this case has been the source of indigenous knowledge, myths and diffusion of knowledge that act as barriers towards the prevention of TB. All the mentioned concepts help to formulate the strategies to prevent TB and motivate the policy implementation aligned to prevent TB.

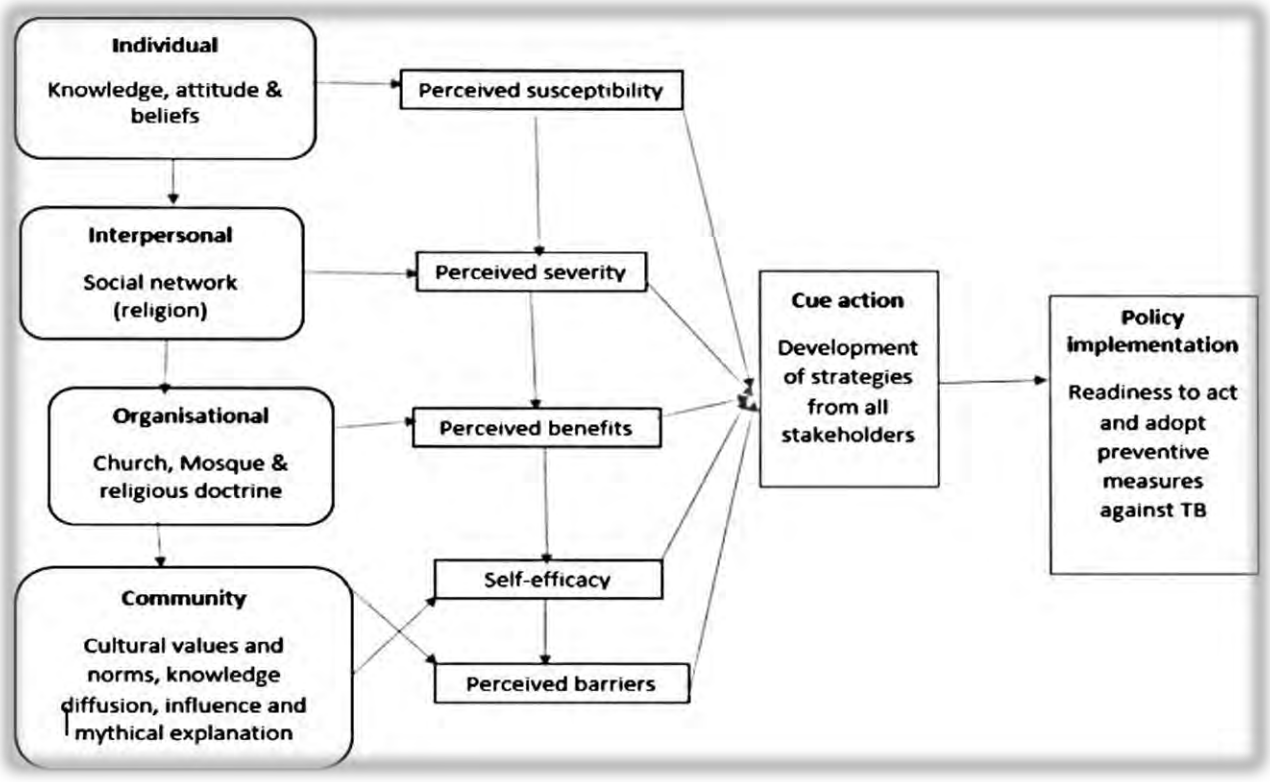


Figure 6.1 Hybrid Theory (Researcher, 2020)

6.3.3.1 Individual and Perceived susceptibility

The characteristics of religious leaders and the congregants has been noted as an influence on their behaviour change, including knowledge, attitudes, behaviour, self-efficacy, developmental history, gender, age, religious identity, racial/ethnic identity, sexual orientation, economic status, financial resources, values, goals, expectations, literacy, stigma, and others. However, this study noted that, majority of the religious leaders had a positive influence towards the awareness of TB and some encouragements were more medical than spirituality due to a enough knowledge concerning TB which they acquired through training.

Furthermore, the individual who is either the religious leader or the religious congregant has been considered as persons who can believe that they are susceptible to the condition. The theory is confirmed in that both religious leaders and religious congregants shared the same view that they were all prone to TB if they cannot practice prevention measures. As a result, if religious leaders and congregants have perceptions that there is a possibility to contract TB, it will influence them to participate in prevention of the disease.

6.3.3.2. Interpersonal and Perceived severity

It has been highlighted in the findings of this study that the knowledge that participants possess about TB has been heavily influenced by both formal (and informal) social networks and social support systems that influence individual behaviours, including family, friends, peers, co-workers, religious networks, customs, or traditions. However, this study was concentrating much on religion as the social network. However, despite the focus in the study on religion, the same religious congregant has also a life to live after the religious commitments enlarging the risk of being more vulnerable if the person is in possession of a wrong health doctrine of TB and incorrect religious doctrine.

With perceived severity, a person understands the seriousness of the condition; if the religious leaders and the congregants consider TB as a serious disease only then can they

partake in prevention and care of which in this study, the participants showed that they consider TB as a serious disease.

6.3.3.3 Organizational and Perceived benefits

Organizations or social institutions with rules and regulations for operations affect how, or how well the strategies can be utilised. In this case, religious organisations ethics, doctrine and teachings have been considered as the springboard of either positive or negative outcome on the prevention of TB. In the same vein, the individual is given an option considering the benefits of either following the religious doctrine or choosing the medical treatments and doctrine of TB prevention in terms of knowledge. It must be noted that a person believes that if they act, they can reduce the severity of the condition. Thus, the religious leaders and the congregants need to see value in taking part in TB prevention.

6.3.3.4 Community and Perceived barriers

This study noted that the community has an impact on how people or the (individual) perceives the barriers to the causes, prevention, and treatment of TB. This study also reported that relationships among organizations, institutions, and informational networks within defined boundaries, including the built environment (e.g., parks), village associations, community leaders, businesses, and transportation can either enhance or be a stumbling block in prevention of TB by religious leaders. It has been noted in this study that, the community myths usually distort the true knowledge and facts about TB leading to a more vulnerability of the individuals. In most cases, the individual is controlled by the dynamics of the ethos of the community, because the person is associated with his or her community. In that aspect, there is a possibility for better prevention strategies if the community ethos consists of the plutonic knowledge of TB.

6.3.3.5 Community and Self-efficacy

This study pointed out that the community has a huge influence on the self-efficacy of the individual regarding the preventive strategies of TB. It must be noted that the person's ability to take the required action is the most important stage in the implementation of the strategy.

As a result, the religious leaders will only be able to take part in TB prevention if they feel empowered enough to take up the responsibility. Therefore, it can be inferred in this study that there is a need for extensive training of religious leaders on TB to enhance the proposed preventive strategies. Policy/ Enabling Environment: Local, state, national and global laws, and policies, including policies regarding the allocation of resources for TB prevention.

6.3.3.6 Cues to action

The cues to action measure how internal or external triggers affect the readiness of the person to act. In this study, it has been noted that most of the participants were ready to implement the strategies that they proposed and, in that regard, their eagerness and curiosity determines the full implementation of the preventive strategies that were developed by this study. Therefore, strong support from religious organisations is needed so that the implantations of these strategies do not feel coerced to do so. That is why they were involved in development of the strategies in this study.

6.4 STRATEGIES FOR PREVENTION OF TB BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

The purpose of Delphi Technique is to reach a group consensus on the phenomena under study. Therefore, this study filtered all the strategies which were less than 100% favoured by the participants. This study further considered the responses from the experts who validated the strategies. The final compiled strategies were grouped in three themes by the researcher for implementation as presented in Table 6.1 below. Primary prevention strategies of TB are all those aimed at protection of individuals from being infected by TB, secondary prevention is those aimed at early detection of TB and preventing it from spreading while tertiary prevention strategies are aimed at improving the quality of life after one had TB and prevent TB relapse (Życzyńska-Ciołek & Kołczyńska 2020: 191).

TABLE 6.1 STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TB BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

Theme 1: Primary prevention of TB		
Strategies	**Activities**	**Indicators**
1. Promote vaccination against TB (BCG) 2. Stop smoking and alcohol intake 3. Eating a well-balanced diet 4. Hand hygiene 5. Buildings should be well ventilated 6. Educate the community on the causes, signs & symptoms of TB 7. The government laws should prohibit sale of alcohol and cigarettes 8. TB prevention campaigns and outreach by religion 9. Religious services should be conducted in well ventilated buildings 10. TB screening services at religious places like church and mosque 11. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held 12. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention 13. There should be sermons dedicated to TB in religious gatherings	1. Participation on TB Day 2. Worship building to be constructed or renovated to allow ventilation. 3. Active involvement in TB health education, treatment, and care activities	1. Allocation of office space for a TB health corner in worship buildings. 2. Worship buildings that are well ventilated. 3. Representation of religion on TB Day.

14. Advocacy activities for TB headed by religious leaders 15. Pray and fast asking God for protection and healing		
Theme 2: Secondary prevention of TB		
Strategies	**Activities**	**Indicators**
16. Cough hygiene for those with TB 17. Promote health seeking behaviour if one has signs and symptoms of TB 18. Counselling for people with TB and their families i.e., emotional, and social 19. Treatment adherence for those with TB to prevent the spread of the disease 20. Patients with TB should adhere to their follow up dates with the health care professionals 21. Isolate patients with TB in health care facilities to prevent cross infection 22. Wear protective clothing when caring for a patient with TB 23. There should be active involvement of religion in direct observed treatment (DOT) 24. If you have TB, do not visit people, and do not invite them to visit you 25. Religion should be involved in TB contact tracing and counselling	1. Provide counselling services targeting TB. 2. Nutritional support for TB. 3. Provision of personnel to facilitate TB activities among the congregants.	1. Number of the congregants counselled. 2. Number of people who benefited from the nutritional support programmes. 3. Number of personnel dedicated to TB prevention.

Theme 3: Tertiary prevention of TB		
Strategies	**Activities**	**Indicators**
26. Clean your living environment and maintain good sanitation 27. Maintain a healthy lifestyle 28. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies	1. Home visits to assist the affected congregants. 2. Fitness programmes. 3. Community mobilization activities.	1. Number of people reached. 2. Number of the people enrolled for the fitness and lifestyle programmes. 3. Number of activities conducted annually, and the number of people reached.

6.4.1 Theme 1: Primary prevention (infection) of TB

The following section unpacks primary prevention measures against TB. According to Machmud, Medison and Yani (2020: 208) primary prevention on TB involves the prevention measures to avoid infection of TB.

6.4.1.1 Health preventive measures

All the participants agreed that there is a need to promote vaccination against TB (BCG) as it will help to prevent people from getting TB. However, as much as some of the religions do not support BCG, the participants in this study agreed that BCG is the most primary care to prevent TB. The study is in support of (UNAIDS, 2019: 47) that people who are immunized against TB are rarely infected with TB. Although the most scientific primary prevention of TB is vaccination, this study captures other measures as discussed under the themes below.
The participants in this study agreed to the fact that if people stop smoking and alcohol intake it will prevent them from being at risk of contracting TB. However, this is not supported by the findings of Colvin, Kallon, Swartz, MacGregor, Kielmann & Grant (2020: 13) who argued that there is a general conspiracy theory surrounding the drinking of alcohol as associated with TB infection, whereas Gottesfeld, Reid and Goosby (2018: 1274) and Ebrahim, Kattan, Elambilakkat, Khan and Memish (2020: 7) concur with the results in this study as they also found out that drinking alcohol and smoking really has something to do with TB infection.

The study participants agreed that eating a well-balanced diet will help to prevent the infection of TB as it will boost the immune system. The study findings are supported with that of Ehrlich, Spiegel and Yassi (2019: 11) that a well-balanced diet will help to avoid the infection of TB. Furthermore, the participants agreed to the fact that hand hygiene is the primary prevention to avoid the infection of TB even though a study by Ehrlich, Spiegel and Yassi (2019: 11) claims that hand hygiene does not necessarily predispose people to TB infection.

6.4.1.2 Environmental preventive measures

The participants in this study agreed to the fact that buildings should be well ventilated to avoid getting TB if there is anyone with TB in the room. More so, all the participants also agreed to the fact that cleaning of the living environment and maintaining good sanitation also serves as the primary preventive measures against getting TB. The study findings are consistent with that of Schmidt, Engel, Abdullahi and Ehrlich (2018: 661) that environmental concerns are the primary preventive measures that help to prevent getting TB. While concerned with the environment, all the participants in this study agreed that the use of fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held is key in prevention of TB. This, therefore, is reinforced by Schmidt, Engel, Abdullahi and Ehrlich (2018: 661) as they noted that environmental concerns pose a threat to TB infection.

6.4.1.3 Preventive measure influenced by social and legal factors

It is key to point out that all the participants agreed to the fact that there is a need to educate the community on the causes, signs and symptoms of TB. Another perspective from participants was that the government laws should prohibit sale of alcohol and cigarettes. However, acceptance of this strategy has legal implications on legislation endorsements by the government due to its economic implications. In support of the findings, Machmud, Medison and Yani (2020: 208) once noted that government laws should act in accordance to promote health laws that prevent the spread of diseases that are human controlled. This study consented to social distancing to prevent TB. However, the findings do not appear to be realistic as people are social animals hence it will be difficult to avoid social meetings.

6.4.1.4 Preventive measures led by religion

Participants of this study chose TB prevention campaigns and outreach by religion as necessary to prevent TB. This has been one of the most important strategies that will help to prevent TB through the engagement of religion. The findings are supported by that of Machmud, Medison and Yani (2020: 209) as they pointed out the significance of religious practices and meetings as the point of meeting for awareness of health-related issues. Furthermore, the participants in this study agreed that TB screening services at religious places like church and mosque is necessary and all the participants agreed to the fact that religious services should be conducted in well ventilated buildings that will help to prevent getting TB.

6.4.1.5 Preventive measures led by religious leaders

As alluded before, religious leaders have great influence on their followers. The participants agreed that there should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention. This is reinforced by the findings from Melaku, Sharma and Alemie (2013: 3) that if religious leaders take the lead to spread health awareness, then the prevention of diseases will be effective. In favour of that, all the participants in this study also agreed that there should be sermons dedicated to TB in religious gatherings. As a result, there is a need for an active engagement of religious leaders to spread the gospel to prevent TB.

Another favoured strategy was the need for advocacy activities for TB headed by religious leaders and all the participants also agreed to the fact that religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies. The findings are interpreted in line with that of Manurung, Ndun, Ruliati, Baun, Lele and Wahyuni (2020:425) who indicated that, religious leaders have the power and authority to control the religious activities, and such will help to control the initiative towards health awareness. Furthermore, the participants are of an idea that religion should be involved in TB contact tracing and counselling. Lastly, all the participants agreed to the fact that there should be active involvement of religion in direct observed treatment (DOT).

6.4.2 Theme 2: Secondary prevention (transmission)

The following section unpacks secondary prevention measures against TB. According to Machmud, Medison and Yani (2020: 209), secondary prevention on TB involves the prevention measures to avoid transmission of TB.

6.4.2.1 Social and emotional support prevention measures

The participants came to a group consensus that counselling for people with TB and their families i.e., emotional, and social will help to prevent the transmission of TB. The study findings are supported by Machmud, Medison and Yani (2020: 210) that there is always a need for social and emotional support through counselling to avoid the transmission of TB as the patients' needs to consider others. The participants agreed that treatment adherence for those with TB to prevent the spread of the disease is vital and this can only be achieved through emotional and social support.

6.4.2.2 Health and behaviour related concerns prevention measures

All the participants in this study agreed to the fact that cough hygiene for those with TB is the chief strategy to prevent the transmission of TB. These findings are reinforced with the results from Hassan, Olukolade, Ogbuji, Afolabi, Okwuonye, Kusimo and Ladipo, (2017) as it is scientifically supported that TB is transmitted through poor cough etiquette. They further agreed that principally there must be an isolation of patients with TB in health care facilities to prevent cross infection. However, the findings are condemned by Machmud, Medison and Yani (2020: 210) who indicated that isolating patients with TB is not realistic and portray discrimination which is more traditional and does not fit in the modern set up of the world. Lastly on this section, the participants agreed that there is a need for patients to wear protective clothing when caring for a patient with TB.

6.4.3 Theme 3: Tertiary prevention (re-infection)

The following section unpacks tertiary prevention measures against TB. According to Machmud, Medison and Yani (2020: 210) tertiary prevention on TB involves the prevention measures to avoid reinfection of TB.

6.4.3.1 Religious preventive measures

The participants agreed that praying and fasting, asking God for protection and healing can help in not getting re-infected by TB. However, as much as this strategy is subjective and is biased towards an effort of religious commitment it then suspends a physical effort to avoid the re-infection. The findings are in support with that of Al Otaibi, (2019: 2) and Machmud, Medison and Yani (2020: 209) as they suggested that religion either acts as the springboard of health risk or preventive measures. However, it can be inferred from a scientific perspective that there is no supportive evidence to substantiate the claim that fasting, and praying can be absolutely considered as the preventive measure for a reinfection by TB.

6.4.3.2 Health concerns measures

According to these study findings, all the participants agreed to the fact that promoting health seeking behaviour if one has signs and symptoms of TB helps to prevent the re-infection of TB. The findings are fully scientifically supported by the study by Yoshitake, Omori, Sugawara, Akishinomiya and Shimada (2019: 7) as they argued that a careful prevention of re-infection is determined by adherence to the treatment of TB during treatment which means if one sees the symptoms of TB while on treatment, they need to consult the clinic. In support of this, all the participants agreed to the fact that patients with TB should adhere to their follow up dates with the health care professionals. This has been supported by the findings of Ren et al (2019 :107) that in most cases patients who adhere to their medication on the first infection are rarely re-infected by TB. Therefore, all the participants in this study agreed that maintenance of a healthy lifestyle can reinforce the prevention of re-infection of TB.

6.5 CONCLUSION

This chapter integrated the study results with the aid of the theories of the study. A hybrid model was developed, and a proposed implementation plan of the strategies was presented. The next chapter will present the conclusion and recommendations of this study.

CHAPTER SEVEN

CONCLUSIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

This chapter presents conclusions drawn from the current study and recommendations based on the objectives of the study. This chapter summarises the study, presents the findings, discusses the limitations of the study, and makes recommendations for practice and further research.

7.2 SUMMARY OF THE STUDY

The aim of the study was to determine the knowledge and attitudes of religious leaders and congregants on TB and to describe their practices of TB prevention in Khomas region, Namibia. Thereafter, this study developed strategies to enhance the prevention of TB by religious leaders in Khomas Region, Namibia.

The researcher conducted an extensive narrative literature review to gain insight into the knowledge and attitudes of TB and practices of TB prevention among religious leaders and congregants nationally and internationally as well as strategies for TB prevention.

7.2.1 The objectives of the study were to:

1. Determine the knowledge and attitudes of religious leaders and congregants regarding TB in Khomas Region, Namibia.
2. Describe practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia.
3. Develop strategies to enhance prevention of TB by religious leaders which ultimately influence prevention of TB in the societies and the communities of Khomas Region, Namibia.

Data was electronically captured in a dedicated manner using Moon Stats 2018 version 2.0 software packages. A password was used to ensure confidentiality of the files. Data cleaning was performed prior to analysis to determine missing values and the distribution (normality) of the variables. Descriptive statistics were applied wherever appropriate. Descriptive

statistics were used to describe participants' demographic information and KAP of TB among religious leaders and congregants in Khomas Region, Namibia. Content analysis was also applied on unstructured data to develop strategies for TB prevention to enhance participation in the prevention of TB by religious leaders.

7.3 FINDINGS

The findings are discussed according to the three objectives of the study.

7.3.1 Determine the knowledge and attitudes of religious leaders and congregants regarding TB in Khomas Region, Namibia

The findings revealed that the respondents had enough knowledge of TB as a disease. However, there were gaps identified in their knowledge. This study found that 241 (80.87%) of the participants chose bacteria (germs) as the cause of TB followed by 44 (14.77%) who chose smoking as the cause of TB. On the question of how one can be infected with TB, 292 (97.99%) participants chose that one will be infected through the air when a person infected with TB coughs or sneezes while only 6 (2.01%) did not know how one can be infected with TB. In response to the best treatment for TB, 271 (91.25%) participants chose modern medicine followed by 15 (5.05%) who chose herbal remedies, and the rest chose home remedies and praying /holy water with 2 (0.67%) each respectively. A total number of 164 (55.22%) participants indicated drug resistance as the danger of stopping TB treatment followed by death and re-infection with 49 (16.50%) each respectively.

In this study, the participants demonstrated a positive attitude towards TB with more than half of the participants 227 (76.65%) agreeing that anyone can be infected by TB. This shows that they do not have any form of discrimination on people with TB. However, the fact that most of the participants 164 (55.97%) were not sure if TB is perceived as a serious disease in their religions or not could influence their readiness to participate in TB prevention activities. Although a very large number of the participants 140 (47.78%) indicated that they will be compassionate to people infected with TB, only 10 (3.42%) of the participants strongly disagreed with fearing a person infected with TB. One of the highlights in this study findings

is the willingness to help persons with TB with 154 (52.2%) of the participants strongly agreeing that they will always be of service to people with TB.

This study can therefore conclude that the participants of this study exhibited good knowledge of TB and attitudes towards TB prevention. The implication of this is the possibility of successful implementation of the strategies developed by this study.

7.3.2 Describe practices of TB prevention among religious leaders and congregants in Khomas Region, Namibia

Participants strongly agreed that they will go to a health facility if they think they have TB followed by 31 (10.44%) participants who agreed to the same statement. Similarly, 125 (42.96%) of the participants strongly disagreed and 111 (38.14%) of the participants disagreed that they will consult a traditional healer if they think they have TB. On the statement of opting for self-treatment when they think they have TB, 111(37.63%) participants disagreed that they will pursue it followed by 100 (33.90%) who strongly disagreed with the same statement although 14 (4.75%) strongly agreed that they will pursue self-treatment if they think they have TB.

This study results indicated that 251 (85.37%) of the participants strongly agree that they will motivate a person with TB to take treatment while only 3 (1.02%) strongly disagreed with the same statement. The participants were asked whether their religions encouraged the use of modern medications for the treatment of TB and 180 (61.64%) of the participants strongly agreed followed by 48 (16.44%) who agreed with the statement but at least 7 (2.40%) strongly disagreed that their religions support the use of modern TB treatment. A total number of 260 (88.44%) participants indicated that they would encourage a person with TB to adhere to treatment until course completion while on the other hand 130 (44.37%) of the participants strongly disagreed that they will advise a person on TB treatment to stop taking it and believe in God/Allah with 102 (34.81%) of the participants disagreeing to the same statement.

In this study 233 (78.98%) of the participants strongly agreed that they will advise a person on TB treatment to continue treatment even if the symptoms have improved while 7 (2.37%) participants indicated that they strongly disagree with taking treatment after symptoms improve. Among the participants of this study, 264 (89.80%) participants strongly agreed that they will encourage a person with TB to cover their mouth when coughing and 263 (89.46%) participants strongly agreed that they will encourage a person with TB to cough freely.

While on practices for TB prevention, 202 (68.71%) participants strongly agreed that they will provide food and nutritional support for persons with TB. A total of 189 (64.51%) participants strongly agreed that they will provide counselling and emotional support to a person with TB followed by 85 (29.01%) participants who agreed to the same statement and only 3 (1.02%) participants strongly disagreed that they will provide counselling and emotional support to a person with TB. Among the participants of this study, 197 (68.88%) were not involved in any TB prevention activities as they answered either not sure, disagree or strongly disagree to the statement “I am involved in TB prevention activities”.

7.3.3 Develop strategies to enhance participation in the prevention of TB by religious leaders which ultimately influence prevention of TB in the societies and the communities of Khomas region, Namibia

This study developed strategies for TB prevention by religious leaders’ through Delphi technique. The experts who participated in this part of the study reached a group consensus on 28 strategies for TB prevention. The researcher classified the strategies as outlined below.

7.3.3.1 Theme 1: Primary prevention (infection)

1. Promote vaccination against TB (BCG)
2. Stop smoking and alcohol intake
3. Eating a well-balanced diet
4. Hand hygiene
5. Buildings should be well ventilated

6. Educate the community on the causes, signs & symptoms of TB
7. The government laws should prohibit the sale of alcohol and cigarettes
8. TB prevention campaigns and outreach by religion
9. Religious services should be conducted in well ventilated buildings
10. TB screening services at religious places like church and mosque
11. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held
12. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention
13. There should be sermons dedicated to TB in religious gatherings
14. Advocacy activities for TB headed by religious leaders
15. Pray and fast asking God for protection and healing

7.3.3.2 Theme 2: Secondary prevention (transmission)

1. Cough hygiene for those with TB
2. Promote health seeking behaviour if one has signs and symptoms of TB
3. Counselling for people with TB and their families i.e., emotional, and social
4. Treatment adherence for those with TB to prevent the spread of the disease
5. Patients with TB should adhere to their follow up dates with the health care professionals
6. Isolate patients with TB in health care facilities to prevent cross infection
7. Wear protective clothing when caring for a patient with TB
8. There should be active involvement of religion in direct observed treatment (DOT)
9. If you have TB, do not visit people, and do not invite them to visit you
10. Religion should be involved in TB contact tracing and counselling

7.3.3.3 Theme 3: Tertiary prevention (re-infection)

1. Clean your living environment and maintain good sanitation
2. Maintain a healthy lifestyle
3. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies

7.4 LIMITATIONS OF THE RESEARCH

- The study was restricted to Khomas Region; therefore, the findings cannot be generalised to other regions of Namibia. However, similar findings are likely to prevail in other parts of the African countries burdened by TB.
- This study was conducted amidst Covid-19 lockdown; therefore, some data was conducted using google forms. Due to this reason some of the population could not be reached and some of the data captured could not be used because it was incomplete due to IT challenges experienced by the participants.
- Face to face interviews could not be done on Delphi round two therefore, this limited probing more on qualitative data collection.
- This study used non-probability data sampling methods therefore the results cannot be generalised.
- The study was limited to participants who could read and write English only.

7.5 DISSEMINATION OF THE STUDY RESULTS

The findings will be presented to the Ministry of Health and Social Services to influence policies on TB prevention. Furthermore, publications will be done on a peer reviewed journal on this study to disseminate the findings and contribute to the body of knowledge.

7.6 IMPLICATIONS FOR NURSING PRACTICE AND EDUCATION

The findings of this study will be presented on Continuous Professional Development seminars for nurses to sensitise them on the areas that still need attention on TB prevention and care. This will also facilitate need based health education in nursing practice. The knowledge generated by this study will also guide nurses in generating nursing prescriptions in TB prevention and care. There is no doubt that this study findings may influence nursing education to contextualise it to the community needs in terms of TB prevention and care. The researcher strongly believes that this study results will be useful in reviewing Community Health training courses especially for course delivery in Khomas region, Namibia and beyond. The Hybrid Model developed by this study can be a foundation for other health care studies in nursing education.

7.7 RECOMMENDATIONS

7.7.1 RECOMMENDATIONS FOR FURTHER STUDIES

The researcher recommends that further research be conducted into the following;

- Knowledge and attitudes of TB and practices of TB prevention among religious leaders and congregants in all the other regions of Namibia.
- A qualitative exploratory research to explore strategies to enhance participation in the prevention of TB by religious leaders which employ face to face interviews.
- A post-doctoral study to propose guidelines for operationalization of strategies to enhance participation of religious leaders in prevention of TB in the communities of Khomas region of Namibia.

7.7.8 RECOMMENDATIONS TO IMPLIMENT THE STRATEGIES TO PREVENT TB

Based on the findings, the researcher makes the following recommendations:

- Health education on TB should be strengthened through the inclusion of religious leaders and doctrines. There must be sermons dedicated to TB awareness and prevention, i.e., using the Koran or the Bible to clarify on the importance of medical treatment of TB. Knowledge on how to recognise the signs and symptoms of TB, the best treatment of TB, the side effects of not adhering to TB treatment.

- Religious leaders should be used as intermediaries to educate the congregants about TB, its treatment and prevention as they have a huge sphere of influence in the decision-making process and having the crowd pulling charismatic character. This will therefore help to control TB through a religious philosophical method.

- Government and non-governmental organisations must give incentives and resources to support religious settings to avoid high risk of TB transmission and offer some allowances to the religious leader to motivate them in encouraging proper prevention measures against TB.

7.8 CONCLUSION

The study found that various factors influence the prevention of TB in religious settings. It can be concluded that there is a need to strengthen the knowledge and awareness of religious leaders and congregants about TB. This will help to develop a holistic approach towards the prevention strategies of TB. The situation requires a combined effort of all the stakeholders namely, religious leaders, religious congregants, government, health care workers, patients, and the community to tackle the problem. The researcher is of the opinion that this study will contribute significantly to alleviating the scourge of TB and as well develop the prevention strategies of TB.

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Annexure A: Ethics Approval from the University of South Africa

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

16 October 2019
Kopano Robert

HSHDC/924/2019
Student: Kopano Robert
Student No: 51909693
Supervisor: Prof TG Lumadi
Qualification: D Lit et Phil
Joint Supervisor: Prof P Risenga
Qualification: D Cur

Decision: Approval

Name: Kopano Robert

Proposal: Strategies to enhance participation in the prevention of tuberculosis by religious leaders in Namibia

Qualification: PhD

Risk Level: Low risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 16 October 2019 to 16 October 2024.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 03/09/2019.

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department*

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of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *Although not an ethical issue, the supervisor and student might find a questionnaire in phase 2 useful as the probing questions can easily be answered by means of a questionnaire.*

5) *You are required to submit an annual report by 30 January of each year that indicates that the study is active. Reports should be submitted to the administrator HSREC@unisa.ac.za. Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof L Roets
ACTING CHAIRPERSON
roetsl@unisa.ac.za

Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Annexure B: Letter seeking permission from Namibia Ministry of Health and Social Services

UNISA university of south africa

15 February 2019

Executive Director
Ministry of Health and Social Services
Private Bag 13198
Windhoek
Namibia

Dear sir,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

(TOPIC: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA.)

I Kopano Robert, I am doing research supervised by Prof TG Lumadi and Prof R Risenga lecturers in the Department of Health Studies towards a Doctor of Philosophy in Nursing at the University of South Africa. The aim of the study is to develop strategies to enhance participation in the prevention of Tuberculosis (TB) by religious leaders in Khomas Region, Namibia.

The study will entail completion of questionnaires by the religious leaders and the congregants.

The benefits of this study include contribution of the study to the body of knowledge on TB and religious leaders as well as development of strategies to enhance participation in the prevention of Tuberculosis (TB) by religious leaders in Khomas Region, Namibia. This will in turn assist in reduction of TB incident rates.

There are no foreseen risks in this study. Feedback procedure will entail delivering a report book to your office after the completion of the study as well as publication of the results in peer reviewed journals.

Yours sincerely

Kopano Robert

Researcher

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Annexure C: Approval letter from Namibia Ministry of Health and Social Services

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2537
Fax: 061 – 222558
E-mail: btjivambi@mhss.gov.na

OFFICE OF THE EXECUTIVE DIRECTOR

Ref: 17/3/3 RK
Enquiries: Mr. B. Tjivambi

Date: 20 May 2019

Mr. Robert Kopano
UNISA University
PO Box 87227
Eros
Windhoek

Dear Mr. Kopano

Re: Strategies to enhance participation in the prevention of Tuberculosis by Religious leaders in Khomas region Namibia

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

3.4 A quarterly report to be submitted to the Ministry's Research Unit;

3.5 Preliminary findings to be submitted upon completion of the study;

3.6 Final report to be submitted upon completion of the study;

3.7 Separate permission should be sought from the Ministry for the publication of the findings.

4. All the cost implications that will result from this study will be the responsibility of the applicant and **not** of the MoHSS.

Yours sincerely,

PERMANENT SECRETARY
MINISTRY OF HEALTH & SOCIAL SERVICES

MR. BEN NANGOMBE
EXECUTIVE DIRECTOR

"Health for All"

Annexure D: Letter seeking permission from the Council of Churches in Namibia

UNISA university of south africa

13 January 2020

Secretary General
Council of Churches in Namibia
P O Box 41
Windhoek,
Namibia

Dear sir,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

(TOPIC: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA.)

I Kopano Robert, I am doing research supervised by Prof TG Lumadi and Prof R Risenga lecturers in the Department of Health Studies towards a Doctor of Philosophy in Nursing at the University of South Africa. The aim of the study is to develop strategies to enhance participation in the prevention of Tuberculosis (TB) by religious leaders in Khomas Region, Namibia.

The study will entail completion of questionnaires by the religious leaders and the congregants from your organisation.

The benefits of this study include contribution of the study to the body of knowledge on TB and religious leaders as well as development of strategies to enhance participation in the prevention of Tuberculosis (TB) by religious leaders in Khomas Region, Namibia. This will in turn assist in reduction of TB incident rates.

There are no foreseen risks in this study. Feedback procedure will entail delivering a report book to your office after the completion of the study as well as publication of the results in peer reviewed journals.

Yours sincerely

Kopano Robert

Researcher

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Annexure E: Approval letter from Council of Churches in Namibia

COUNCIL OF CHURCHES IN NAMIBIA
Office of the General Secretary

15 January 2020

To Mr. Robert Kopano
UNISA
P. O. Box 87227
Eros
Windhoek

Attention: Mr. Kopano

Re. Strategies to enhance participation in the prevention of Tuberculosis by Religious leaders in Khomas region.

Reference is made to your letter dated 13 January 2020 about doing a research towards a Doctorate in nursing. The aim of your study as mention in your letter " to develop strategies to enhance participation in the prevention of tuberculosis (TB) by religious leaders" is highly welcomed. We feel honored by selecting CCN and each member churches for your study.

We encourage our member churches to give support and cooperation during your data collection. We are looking forward to have the copy of your report book after the completion of your study which we like to share with our member churches.

We wish you all God's strength and blessing with your studies.

Yours

Council of churches in Namibia
P O Box 41, Windhoek
2020 -01- 16
8521, Abraham Mashego street
Katutura

L. A. Beukes (Acting General Secretary)

8521 Abraham Mashego Street, Katutura
P.O. Box 41, Windhoek, Namibia • Tel.: +264-81-143-5753 / +264-81-206-2464
E-mail Address: ccnprog@nawa.co.na

Annexure F: Letter seeking permission form Islamic Centre

UNISA university of south africa

13 January 2020

Secretary General
Windhoek Islamic Centre
P O Box 35173
Windhoek
Namibia

Dear sir,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

(TOPIC: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA.)

I Kopano Robert, I am doing research supervised by Prof TG Lumadi and Prof R Risenga lecturers in the Department of Health Studies towards a Doctor of Philosophy in Nursing at the University of South Africa. The aim of the study is to develop strategies to enhance participation in the prevention of Tuberculosis (TB) by religious leaders in Khomas Region, Namibia.

The study will entail completion of questionnaires by the religious leaders and the congregants from your organisation.

The benefits of this study include contribution of the study to the body of knowledge on TB and religious leaders as well as development of strategies to enhance participation in the prevention of Tuberculosis (TB) by religious leaders in Khomas Region, Namibia. This will in turn assist in reduction of TB incident rates.

There are no foreseen risks in this study. Feedback procedure will entail delivering a report book to your office after the completion of the study as well as publication of the results in peer reviewed journals.

Yours sincerely

Kopano Robert

Researcher

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Annexure G: Approval letter from Islamic Centre

بسم الله الرحمن الرحيم

In the name of Allah the most gracious the most merciful

WINDHOEK ISLAMIC CENTER

مركز ويندوك الإسلامي

22 January 2020

TO: Mr Kopano Robert
P O Box 87227,
Eros

RE: RESEARCH ON STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

We would to acknowledge receipt of your letter dated 13th January 2020 seeking permission to conduct a study as indicated above. It is such a pleasure to be granted the opportunity to partake in a study of this magnitude. Therefore, we are pleased to inform you that permission has been granted to conduct your study among the Islamic leaders and congregants in all our centers in Khomas region.

If there is any assistance you might need, do not hesitate to consult our office. We will be looking forward for the valuable contribution of your study toward combating TB in Khomas region.

Sincerely,

Name: Hilarius Matias Abdulkareem
Rank: Administrator

WINDHOEK ISLAMIC CENTRE
DEPARTMENT OF DAWAH, ZAKAH & SOCIAL WELFARE
قسم الدعوة ، الزكاة والخدمات الاجتماعية
22 JAN 2020
P. O. BOX 35173, PIONEERSPARK
TEL/FAX 061271927
Windhoek - Namibia

P.O.Box: 35173, Pioneerspark, Windhoek, Namibia, 9000
Sam Nujoma Drive & Puccini Street, Windhoek, Namibia.
Tel. / Fax: 061-271927, Email: markazwindhoek@yahoo.com

Annexure H: Letter from the statistician

Flomari Consulting & Coaching Services
PO Box 724, Windhoek
118 Haseweb Street, Cimbebasia
Registration No: Ac/2015/14439

18 January 2020

To Whom It May Concern

RE: STATISTICAL ANALYSIS

This letter serves as confirmation that Kopano Robert, student number 51909693, was assisted with the analysis of quantitative data for the study:

Strategies to enhance participation in the prevention of tuberculosis by Religious leaders in Khomas Region, Namibia.

Kind Regards

Dr Florida Beukes
Education Consultant & Life Coach
flomari@iway.na
+264 81 3920875

Annexure I: Letter from the language editor

+27 83 215 6445
Rosemarys.pes@gmail.com
1 Richards drive
Midrand, 1684

29 JANUARY 2021

To whom it may concern

RE: LANGUAGE AND TECHNICAL EDITING

This letter serves as confirmation that the thesis titled "STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA" by KOPANO ROBERT, a PhD candidate, student number 51909693 was edited by Rosemary's Proofreading & Editing Services.

Kind Regards

R MALULEKE (LANGUAGE EDITOR)

Annexure J: Information to the participants

PARTICIPANT INFORMATION SHEET

Ethics clearance reference number: HSHDC/924/2019
Research permission reference number:17/3/3 RK

01 March 2020

Dear Prospective Participant

My name is Kopano Robert and I am doing research supervised by Prof TG Lumadi and Prof PR Risenga, lecturers in the Department of Health Studies towards a Doctor of Philosophy in Nursing at the University of South Africa. I am inviting you to participate in a study entitled **STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA.**

WHAT IS THE PURPOSE OF THE STUDY?
I am conducting this research to develop strategies to enhance prevention of TB by religious leaders in Khomas region, Namibia.

WHY AM I BEING INVITED TO PARTICIPATE?
You have been chosen to participate in the study because you are a religious leader registered with your religious organization, a congregant, or an expert in TB.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

Religious leader: The study involves questionnaires with multiple response questions where you as a religious leader is expected to choose the best options by ticking. You will need at least fifteen (15) minutes to complete the questionnaire.

Congregants: The study involves questionnaires with multiple response questions where you as a religious leader is expected to choose the best options by ticking. You will need at least fifteen (15) minutes to complete the questionnaire.

Executive member of a religious organisation: You are invited to participate in three rounds of Strategy development of this study. Semi-structured questionnaire will be given to you to complete on round one of this study. On round two you will be given feedback of round one responses for you to evaluate your answers of round one. Finally, round three of this study will require you to choose whether you agree or disagree with the strategies developed. For each data collection session, you will need at least 20 minutes to participate.

Congregants who are TB experts: You are invited to participate in three rounds of Strategy development of this study. Semi-structured questionnaire will be given to you to complete on round one of this study. On round two you will be given feedback of round one responses for you to evaluate your answers of round one. Finally, round three of this study will require you to choose whether you agree or disagree with the strategies developed. For each data collection session, you will need at least 20 minutes to participate.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Participation in this study will assist in developing strategies to prevent TB in Namibia by religious leaders. Therefore, religion as a stakeholder in health will assist in reducing TB incidence rates. This study will also contribute to the body of knowledge on TB and religious leaders.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

There are no foreseen inconveniences or discomfort to you as the participant.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

Your name will not be recorded anywhere, and no one will be able to connect you to the answers you give. Your answers will be given a code number, or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee. These people will sign a confidentiality agreement to protect your data. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Your data might be used for journal article publication, research report and or conference proceedings. Privacy will still be maintained because your data will be coded so that you are not linked to any sort of data.

HOW WILL THE RESEARCHER PROTECT THE SECURITY OF DATA?

The researcher will store hard copies of your answers for a minimum period of five years in a locked container in the researcher's study room for future research or academic purposes; electronic information will be stored on a password-protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Indicate how information will be destroyed if necessary. Hard copies will be shredded, and electronic copies will be permanently deleted from the hard drive of the computer using a relevant software program.

WILL I RECEIVE ANY PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

You will not receive any payment or reward for participating in this study.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of the Department of Health studies, UNISA, Ministry of Health and Social Services, Council of Churches in Namibia, and Islamic Centre. A copy of the approval letters can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please contact Kopano Robert on contact +264 81 333 2468 or email rkpone2000@gmail.com.

Should you have concerns about the way in which the research has been conducted, you may contact Prof TG Lumadi at email lumadtg@unisa.ac.za and telephone +27124296513, Prof R Risenga at email risenpr@unisa.ac.za and telephone +27124296769. Contact the research ethics chairperson of the Health Studies Research Ethics Committee, Prof J. Maritz at email HSREC@unisa.ac.za if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.

Participant signature

Participant name

Annexure K: Informed consent form

INFORMED CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the researcher asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation in this study.

I have read (or the researcher had explained to me) and I understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw from this study at any time without penalty.

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential.

Participant Name & Surname…… (please print)

Participant Signature…… Date……

Researcher's Name & Surname…… (please print)

Researcher's signature…… Date……

Annexure L: Phase one Questionnaire

QUESTIONNAIRE

TITLE: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

Date: _____

Code: _____

A. SOCIO-DEMOGRAPHIC CHARACTERISTICS	
A1. Age (years)	……(years)
A2. Gender (Tick **one** answer only)	1. ☐ Male 2. ☐ Female
A3. Marital status (Tick **one** answer only)	1. ☐ Single 2. ☐ Married 3. ☐ Divorced 4. ☐ Cohabiting
A4. Highest educational level (Tick **one** answer only)	1. ☐ No formal education 2. ☐ Primary education 3. ☐ Secondary education 4. ☐ Tertiary education
A5. Religion (Tick **one** answer only)	1. ☐ Christianity 2. ☐ Islam 3. ☐ Other (specify)…… ……
A6. Religious position (Tick **one** answer only)	1. ☐ Religious leader 2. ☐ Congregant
A7. Have you ever attended a training on TB?	1. ☐ Yes 2. ☐ No
B. KNOWLEDGE OF TB	
B1. What causes TB?	1. ☐ Bad luck/curse

(Tick **one** answer only)	2. ☐ Bacteria (germs) 3. ☐ Demons 4. ☐ Cold wind 5. ☐ Smoking 6. ☐ Malnutrition 7. ☐ I do not know
B2. How can a person get infected with TB? (Tick **one** answer only)	1. ☐ Through handshake 2. ☐ Through the air when the infected person coughs or sneezes 3. ☐ Through sharing food with a person infected with TB 4. ☐ Through sharing clothes with a person infected with TB 5. ☐ I do not know
B3. What are the signs and symptoms of TB? (Tick **all** the correct options)	1. ☐ Rash 2. ☐ Cough that lasts longer than 3 weeks 3. ☐ Coughing up blood 4. ☐ Severe headache 5. ☐ Nausea 6. ☐ Weight loss 7. ☐ Fever without clear cause that lasts more than 7 days 8. ☐ Chest pain 9. ☐ Shortness of breath 10. ☐ Ongoing fatigue 11. ☐ I do not know
B4. How can you prevent yourself from getting TB? (Tick **all** the correct options)	1. ☐ Avoid shaking hands 2. ☐ Covering mouth and nose when coughing or sneezing 3. ☐ Avoid sharing dishes

	4. ☐ Washing hands after touching items in public places 5. ☐ Closing windows at home 6. ☐ Through good nutrition 7. ☐ By praying 8. ☐ By vaccination 9. ☐ By isolating patients with TB 10. ☐ I do not know
B5. What is the best treatment for TB? (Tick **one** answer only)	1. ☐ Herbal Remedies 2. ☐ Home Remedies 3. ☐ Praying /holy water 4. ☐ Modern medicine 5. ☐ I do not know
B6. For how long should a person with TB take treatment to be totally cured?	……..……. (specify)
B6. What are the dangers of stopping TB treatment before course completion?	1. ☐ Death 2. ☐ Re-infection 3. ☐ Inability to cure infection 4. ☐ Drug resistance 5. ☐ Don't know 6. ☐ Other…… …… …… ……

C. ATTITUDE TOWARDS TB

Please indicate the extent to which you agree with the following statements (**Tick** to indicate your choice):

Statements	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
C1. Anyone can get TB					
C2. TB is a serious issue in our religion					
C3. I am afraid of a person infected with TB because they might infect me					
C4. It surprises me when someone has TB					
C5. I feel sad when someone has TB					
C6. I feel compassion for people with TB					
C7. I feel compassion for people with TB, but I stay away from them					
C8. I am ashamed of a person with TB					
C9. It makes me sad and hopeless to see a person with TB					
C10. I have no feelings towards a person with TB					
C11. I have a desire to help someone with TB					
C12. I reject people with TB					
C13. I support people with TB					
C14. It is an individual problem to get TB					

D. PRACTICES TOWARDS TB PREVENTION

Please indicate the extent to which you agree with the following statements (**Tick** to indicate your choice):

Statements	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
D1. If I think I have TB, I will go to a health facility					
D2. If I think I have TB, I will go to a traditional healer					
D3. If I think I have TB, I will pursue self-treatment options, like herbs					
D4. I will motivate a person with TB to take treatment					

D5. My religious beliefs encourage the use of modern treatment for TB					
D6. I will advise a person on TB treatment to take the treatment consistently until course completion					
D7. I will advise a person on TB treatment to stop the treatment and have faith that the cure comes from God/Allah					
D8. I will advise a person on TB treatment to continue with treatment even if the symptoms have improved					
D9. I will encourage a person with TB to cover their mouth when coughing					
D10. I will encourage a person with TB to cough freely					
D11. I will provide food and nutritional support to a person with TB					
D12. I will provide counselling and emotional support to a person with TB					
D13. I am involved in TB prevention activities					

D14. Outline TB prevention strategies that best fit your religious beliefs

_____

_____

_____

_____

_____

_____

_____

Annexure M: Delphi technique round one questionnaire

QUESTIONNAIRE

TITLE: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS (TB) BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

Date: _____

Code: _____

A. SOCIO-DEMOGRAPHIC CHARACTERISTICS	
A1. Age (years)	……(years)
A2. Gender (Tick **one** answer only)	3. ☐ Male 4. ☐ Female
A3. Marital status (Tick **one** answer only)	5. ☐ Single 6. ☐ Married 7. ☐ Divorced 8. ☐ Cohabiting
A4. Highest educational level (Tick **one** answer only)	5. ☐ No formal education 6. ☐ Primary education 7. ☐ Secondary education 8. ☐ Tertiary education
A5. Religion (Tick **one** answer only)	4. ☐ Christianity 5. ☐ Islam 6. ☐ Other (specify)……. ……
A6. Religious position (Tick **one** answer only)	3. ☐ Religious leader 4. ☐ Congregant
A7. Have you ever attended a training on TB?	3. ☐ Yes 4. ☐ No

B. Outline strategies for TB prevention that best fit your religious beliefs.

_____

_____

_____

_____

_____

Thank you for participating in this study.

Annexure N: Delphi technique round two Questionnaire

QUESTIONNAIRE: Delphi round two

TITLE: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

Please indicate the extent to which you agree with the following strategies for prevention of TB:

Strategies	**Strongly Agree**	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
S1. Treatment adherence for those with TB to prevent the spread of the disease					
S2. There should be active involvement of religion in direct observed treatment (DOT)					
S3. Counselling for people with TB and their families i.e., emotional, and social					
S4. Agape love for those with TB and their families or affected parties					
S5. Cough hygiene for those with TB					
S6. People with TB should be encouraged to wear face masks in public spaces					
S7. Buildings should be well ventilated					
S8. Eating a well-balanced diet					
S9. Hand hygiene					
S10. Promote vaccination against TB (BCG)					

S11. Promote health seeking behaviour if one has signs and symptoms of TB					
S12. Isolate patients with TB in health care facilities to prevent cross infection					
S13. Patients with TB should adhere to their follow up dates with the health care professionals					
S14. Stop smoking and alcohol intake					
S15. Clean your living environment and maintain good sanitation					
S16. Pray and fast asking God for protection and healing					
S17. Maintain a healthy lifestyle					
S18. Drink boiled water					
S19. Chewing mopane worms					
S20. Educate the community on the causes, signs & symptoms of TB					
S21. Keep warm in winter					
S22. The government laws should prohibit sale of alcohol and cigarettes					
S23. Drinking water with mixed herbs					
S24. Trust in God while adhering to your TB treatment					
S25. Wear protective clothing when caring for a patient with TB					
S26. Do not share clothing and dishes with a person with TB					
S27. If you have TB, do not visit people and do not invite them to visit you					

S28. Pasteurize your milk to prevent Bovine TB					
S29. Religious services should be conducted in well ventilated buildings					
S30. Physical exercise					
S31. TB screening services at religious places like church and mosque					
S32. Discourage sharing of holy communion cups					
S33. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held					
S34. Do not discriminate against a person with TB					
S35. There should be sermons dedicated to TB in religious gatherings					
S36. Religion should be involved in TB contact tracing and counselling					
S37. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention					
S38. Meditation					
S39. Follow TB guidelines for TB prevention as provided by World Health Organization and the Ministry of Health and Social Services					
S40. Follow Halaal guidance					
S41. Advocacy activities for TB headed by religious leaders					

S42. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies					
S43. TB prevention campaigns and outreach by religion					

Thank you for participating in this study.

Annexure O: Delphi technique round three questionnaire

QUESTIONNAIRE: Delphi round three

TITLE: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

Please choose the strategies for prevention of TB among the following. Indicate your choice by ticking Yes or No.

Strategies	**Yes**	**No**
S1. Treatment adherence for those with TB to prevent the spread of the disease		
S2. There should be active involvement of religion in direct observed treatment (DOT)		
S3. Counselling for people with TB and their families i.e., emotional, and social		
S4. Agape love for those with TB and their families or affected parties		
S5. Cough hygiene for those with TB		
S6. People with TB should be encouraged to wear face masks in public spaces		
S7. Buildings should be well ventilated		
S8. Eating a well-balanced diet		
S9. Hand hygiene		
S10. Promote vaccination against TB (BCG)		
S11. Promote health seeking behaviour if one has signs and symptoms of TB		
S12. Isolate patients with TB in health care facilities to prevent cross infection		
S13. Patients with TB should adhere to their follow up dates with the health care professionals		
S14. Stop smoking and alcohol intake		
S15. Clean your living environment and maintain good sanitation		
S16. Pray and fast asking God for protection and healing		
S17. Maintain a healthy lifestyle		

S18. Drink boiled water		
S19. Chewing mopane worms		
S20. Educate the community on the causes, signs & symptoms of TB		
S21. Keep warm in winter		
S22. The government laws should prohibit sale of alcohol and cigarettes		
S23. Drinking water with mixed herbs		
S24. Trust in God while adhering to your TB treatment		
S25. Wear protective clothing when caring for a patient with TB		
S26. Do not share clothing and dishes with a person with TB		
S27. If you have TB, do not visit people, and do not invite them to visit you		
S28. Pasteurize your milk to prevent Bovine TB		
S29. Religious services should be conducted in well ventilated buildings		
S30. Physical exercise		
S31. TB screening services at religious places like church and mosque		
S32. Discourage sharing of holy communion cups		
S33. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held		
S34. Do not discriminate against a person with TB		
S35. There should be sermons dedicated to TB in religious gatherings		
S36. Religion should be involved in TB contact tracing and counselling		
S37. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention		
S38. Meditation		
S39. Follow TB guidelines for TB prevention as provided by World Health Organization and the Ministry of Health and Social Services		
S40. Follow Halaal guidance		
S41. Advocacy activities for TB headed by religious leaders		
S42. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies		
S43. TB prevention campaigns and outreach by religion		

Thank you for participating in this study.

Annexure P: Strategies validation tool

Validation tool for the strategies

TITLE: STRATEGIES TO ENHANCE PARTICIPATION IN THE PREVENTION OF TUBERCULOSIS BY RELIGIOUS LEADERS IN KHOMAS REGION, NAMIBIA

The following strategies were developed to enhance participation in the prevention of TB by religious leaders in Khomas Region Namibia. Please indicate whether the strategies are appropriate and valid for TB prevention. Indicate your choice by ticking agree or disagree and add a comment where necessary.

Strategies	Agree	Disagree	Comments
S1. Educate the community on the causes, signs & symptoms of TB			
S2. TB prevention campaigns and outreach by religion			
S3. There should be sermons dedicated to TB in religious gatherings			
S4. There should be information pamphlets about TB in religious facilities for distribution to show support on TB prevention			
S5. Religion should be in the forefront in community mobilization for effective communication and participation in TB prevention strategies			

S6. Counselling for people with TB and their families i.e., emotional, and social			
S7. Treatment adherence for those with TB to prevent the spread of the disease			
S8. Promote vaccination against TB (BCG)			
S9. The government laws should prohibit sale of alcohol and cigarettes			
S10. If you have TB, do not visit people, and do not invite them to visit you			
S11. Religion should be involved in TB contact tracing and counselling			
S12. Advocacy activities for TB headed by religious leaders			
S13. Cough hygiene for people with Tuberculosis			
S14. Eating a well-balanced diet			
S15. Hand hygiene			
S16. Buildings should be well ventilated			
S17. Pray and fast asking God for protection and healing			
S18. Promote health seeking behaviour if one has signs and symptoms of TB			

S19. Use fans to aid in air circulation and ventilation in religious buildings where massive gatherings are held			
S20. Stop smoking and alcohol intake			
S21. Clean your living environment and maintain good sanitation			
S22. Patients with TB should adhere to their follow up dates with the health care professionals			
S23. Maintain a healthy lifestyle			
S24. Isolate patients with TB in health care facilities to prevent cross infection			
S25. Wear protective clothing when caring for a patient with TB			
S26. There should be active involvement of religion in direct observed treatment (DOT)			
S27. TB screening services at religious places like church and mosque			
S28. Religious services should be conducted in well ventilated buildings			

Thank you for participating in this study.